

THE NEW INTERNATIONAL Year Book

A COMPENDIUM OF
THE WORLD'S PROGRESS
FOR THE YEAR
1948

EDITOR
HENRY E. VIZETELLY



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FOREWORD

THE RECORD of the world for the calendar year 1948 is replete with important happenings and developments. The "cold war" between the U.S.S.R. and the western world continued; President Truman won the Presidential election in the United States; Burma became independent, and Mohandas K. Gandhi was assassinated in New Delhi, India; Great Britain's mandate in Palestine ended, and the state of Israel was proclaimed; the European Recovery Program (Marshall Plan) went into effect; Queen Wilhelmina of the Netherlands abdicated and was succeeded by her daughter, Princess Juliana; a son was born to Princess Elizabeth of England; the Republic of Ireland Bill was signed by President Seán T. O'Kelly; and, late in the year, the Prime Minister of Egypt, Nokrashy Pasha, was assassinated.

The editor wishes to express his sincere thanks to all the contributors. Many of them are already well-known to the readers of the YEAR BOOK, and need no introduction here. Among the writers contributing to THE NEW INTERNATIONAL YEAR BOOK for the first time are: Miss Edna H. Barr, U.S. State Department, who prepared the article on SOUTH PACIFIC COMMISSION; The Rev. Henry G. J. Beck, VATICAN CITY; Dr. Eugene M. Blake, Clinical Professor of Ophthalmology, Yale Medical School, OPHTHALMOLOGY; Dallas S. Burch, VETERINARY MEDICINE; Rabbi Abraham Burstein, JUDAISM; Dr. Edwin S. Calverley, ISLAM; Dr. G. Brock Chisholm, WORLD HEALTH ORGANIZATION; Miss Jane Collins, of the R. H. Macy Advertising Department, FASHIONS; William J. Cronin, MOTOR VEHICLES; William B. Dall, Managing Editor, *Textile World*, TEXTILES; Dr. Ed. F. Degering, of the Department of Chemistry, Purdue University, CHEMISTRY AND CHEMICAL TECHNOLOGY; Norris E. Dodd, FOOD AND AGRICULTURAL ORGANIZATION;

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The editor also wishes to express his gratitude to the many representatives of Federal, State, and foreign governments, to the heads of the numerous educational and cultural institutions, to Mr. Robert W. Voorhees (Manager of the Funk & Wagnalls Editorial Department), and to the members of the YEAR BOOK Editorial Staff (especially to Miss Gudlaug Kjösterud-Randby and Mr. Gerald Gottlieb) for their unstinted help and generosity which have made possible the completion of this volume. In conclusion, the editor extends his thanks to Miss Catherine Hayes, of the Funk & Wagnalls Advertising Department, for her timely aid in securing expert contributors for a number of important articles in this YEAR BOOK.

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CHRONOLOGY FOR 1948

- Jan. 1.** New Constitution of the Italian Republic became effective.
- Jan. 4.** Burma became an independent republic.
- Jan. 5.** Interim Committee ("Little Assembly") of the United Nations General Assembly held its first meeting at Lake Success.
- Jan. 6.** Eightieth Congress of the U.S. opened its sessions.
- Jan. 9.** United Nations Commission on Palestine held its first meeting.
- Jan. 10.** The "Third Force," opposed both to Communism and de Gaulle, officially constituted in France.
- Jan. 13.** The Inter-American Labor Congress, at its closing session in Lima, recommended establishment of an Inter-American Labor Federation.
- Jan. 16.** Bulgaria and Rumania signed a treaty of friendship and collaboration.
- Jan. 17.** Security Council of the United Nations requested India and Pakistan to seek ways of ending the strife in Kashmir.
- Jan. 18.** The Progressive Citizens of America (PCA) adopted proposals for changes in the foreign and domestic policies of the U.S.
- Jan. 21.** Treaty for the establishment of the Federation of Malaya signed by nine rulers of the Malay States.
- Jan. 23.** France and Britain agreed on proposals for a Franco-British treaty with Benelux customs union countries leading to Western unity.
- Jan. 23.** General Eisenhower announced that he was not available as a candidate for Presidency of the U.S.
- Jan. 25.** Bulgarian government issued decree nationalizing most of the country's industries.
- Jan. 26.** Poland and the U.S.S.R. signed a trade agreement.
- Jan. 28.** The National Convention in Newfoundland rejected a proposal to join Canada.
- Jan. 30.** Mohandas K. Gandhi assassinated in Delhi by a member of the Hindu Mahasabha.
- Feb. 1.** New constitution of the Federation of Malaya inaugurated.
- Feb. 2.** Italian government signed a 10-year treaty of friendship, trade, and navigation with the U.S.
- Feb. 4.** Ceylon achieved Dominion status in the British Commonwealth of Nations, with Sir Henry Moore as Governor-General.
- Feb. 5.** Poland and Finland signed a one-year trade agreement.
- Feb. 6.** General Otto von Stülpnagel, Commander of Paris during Nazi occupation, committed suicide in prison.
- Feb. 7.** The World Health Organization, a special agency of the United Nations, came into formal existence.
- Feb. 9.** The frontier between France and Spain was reopened.
- Feb. 11.** Czechoslovakia and the Netherlands signed a trade agreement in Prague.
- Feb. 12.** Great Britain and Argentina signed the Andes Agreement providing for mutual trade.
- Feb. 13.** The Foreign Relations Committee of the U.S. Senate voted approval of the 4-year European Recovery Program, beginning April 1.
- Feb. 14.** British and American authorities in Western Germany authorized a Bank of German States to take over functions of old Reichsbank.
- Feb. 15.** Romulo Gallegos, first Venezuelan president to be elected by popular vote, inaugurated at Caracas.
- Feb. 18.** John A. Costello became the new premier of Eire, replacing Eamon de Valera.
- Feb. 20.** Britain, France, and the U.S. reached an agreement on the economic integration of the Saar with France.
- Feb. 25.** Dr. Eduard Beneš accepted resignation of Czechoslovak cabinet; new government formed with Klement Gottwald, Communist, as premier.
- Feb. 28.** Last British troops left India.
- Mar. 2.** Viennese factory workers struck in protest against food shortages in Austria.
- Mar. 3.** Egypt and the U.S.S.R. signed a trade agreement covering agricultural and industrial products.
- Mar. 4.** Canadian government adopted a proposal to bar all Communists from entering the country.
- Mar. 5.** Czechoslovakia decreed the nationalization of most of the country's industries and enterprises.
- Mar. 10.** Jan Masaryk, Foreign Minister of Czechoslovakia, committed "suicide" in Prague.
- Mar. 12.** Civil war broke out in Costa Rica.
- Mar. 13.** U.S. Senate voted for an appropriation of \$5,300 million for European Recovery Program.
- Mar. 15.** The second session of the European Economic Conference opened in Paris, with representatives of 16 nations present.
- Mar. 17.** France, Britain, and Benelux countries signed a 50-year treaty of economic cooperation and military aid.
- Mar. 18.** Bulgaria and the U.S.S.R. concluded a 20-year treaty of friendship and mutual aid.
- Mar. 19.** United States withdrew its support from plan to partition Palestine.
- Mar. 20.** France, Britain, and the U.S. proposed that the Free Territory of Trieste be returned to Italy.
- Mar. 21.** International Conference of American States opened at Bogotá, Colombia.
- Mar. 23.** World altitude record of 59,446 feet set by Captain Cunningham in a de Havilland airplane.
- Mar. 23.** Conference on Freedom of Information opened in Geneva.
- Mar. 24.** Charter of an International Trade Organization (Havana Charter) signed by delegates of 53 nations of the United Nations.
- Mar. 28.** Rumanian general elections gave People's Democratic Front 90.8 percent of the vote and 405 seats in the Grand National Assembly.
- Mar. 30.** The United Nations Atomic Energy Commission adjourned indefinitely.
- Mar. 31.** House of Representatives passed Economic Cooperation Act granting \$6,205 million for foreign aid, and reaffirmed its invitation to Spain to join Marshall Plan.
- Apr. 1.** Nationalization of the British electrical industry came into force.

- Apr. 2.** Congress voted Republican tax reduction bill cutting taxes by an estimated \$4,800 million.
- Apr. 4.** Chiang Kai-shek announced that he would not run for reelection as president of Chinese Republic.
- Apr. 5.** First shipments of goods under the ERP left U.S. ports.
- Apr. 6.** Finland and the U.S.S.R. signed a 10-year treaty of friendship and non-aggression.
- Apr. 9.** Dr. Jorge Gaitan, leader of the Liberal Party, assassinated in Bogotá, Colombia.
- Apr. 10.** Italy's application for membership in the United Nations was vetoed by the U.S.S.R.
- Apr. 12.** General Zionist Council issued a proclamation establishing an independent Jewish State upon termination of the British mandate.
- Apr. 13.** New Rumanian Constitution adopted by the National Assembly; Dr. Parhon elected President of Presidium.
- Apr. 18.** General elections in Italy gave Christian Democrats 48.7 percent of votes for Chamber of Deputies and 47.9 percent for Senate.
- Apr. 19.** Burma admitted to membership in the United Nations.
- Apr. 19.** John L. Lewis, of United Mine Workers, found guilty of contempt of court.
- Apr. 20.** Costa Rica protested against invasion of country by Nicaraguan troops.
- Apr. 23.** Czechoslovakia and Bulgaria signed a treaty of alliance, friendship, and mutual assistance.
- Apr. 25.** First meeting of the Ambassadors' Committee of the Consultative Council of the Western Union held in Brussels.
- Apr. 30.** Ninth International Conference of American States closed in Bogotá, Colombia.
- May 1.** Great Britain signed a trade agreement with Hungary.
- May 2.** General Dwight D. Eisenhower took his farewell salute from the Army at Fort Myer, Va.
- May 3.** Colombia severed diplomatic relations with the U.S.S.R.
- May 4.** Siam established diplomatic relations with the U.S.S.R.
- May 6.** Four-Power talks on Austrian peace treaty adjourned in London by deadlock over Yugoslav claims.
- May 7.** Winston Churchill opened the Congress of Europe at The Hague.
- May 8.** New Chinese Parliament opened in Nanking.
- May 9.** New Constitution of Czechoslovakia adopted by Constituent Assembly without a dissenting vote.
- May 11.** Henry A. Wallace, in an open letter to Josef Stalin, made proposals for improving relations between the U.S.S.R. and the U.S.
- May 11.** Senator Luigi Einaudi elected President of the Italian Republic on the fourth ballot.
- May 14.** British mandate over Palestine terminated at midnight.
- May 14.** The Jewish National Council proclaimed in Tel Aviv the establishment of the State of Israel upon termination of the British mandate.
- May 16.** Dr. Chaim Weizman elected President of the Council of Government of Israel.
- May 17.** Recognition of Israel given by the U.S.S.R.
- May 17.** Josef Stalin replied favorably to Mr. Wallace's open letter suggesting better relations between the U.S.S.R. and the U.S.
- May 19.** France agreed to the establishment of a provisional central government of Viet Nam.
- May 21.** Count Folke Bernadotte assumed duties as mediator in Palestine disputes.
- May 23.** New Italian government formed, with Alcide de Gasperi, Christian Democrat, as Premier.
- May 26.** Jan Christian Smuts and his Party defeated in general elections in the Union of South Africa.
- May 30.** General elections in Czechoslovakia gave the National Front 89.28 percent of the total votes cast.
- June 1.** General election in Cuba gave a heavy majority to the Government party.
- June 3.** General Higinio Morínigo, President of Paraguay, deposed by a dissident group representing the pro-Government party.
- June 3.** Dr. D. F. Malan, of the National Party, formed a new government in South Africa, with himself as Prime Minister.
- June 4.** Ceylon applied for membership in the United Nations.
- June 5.** Franco signed an agreement recognizing the independence of Viet Nam, General Nguyen Xuan being head of provisional government.
- June 7.** Eduard Beneš resigned as President of the Czechoslovak Republic.
- June 8.** The U.S.S.R. announced a 50 percent reduction in reparations from Rumania and Hungary.
- June 9.** Klement Gottwald, Acting President of Czechoslovakia, signed the new Constitution.
- June 14.** Premier Klement Gottwald elected President of Czechoslovakia by the National Assembly.
- June 16.** The Hungarian National Assembly passed the bill nationalizing the schools.
- June 17.** Henry A. Wallace endorsed as candidate for Presidency of the U.S. by annual convention of Progressive Citizens of America.
- June 20.** New German currency, the Deutschmark, issued to replace the Reichsmark in the western zones of Germany.
- June 23.** Conference of Foreign Ministers of East European States opened in Warsaw to discuss the London agreement on Germany.
- June 24.** Thomas E. Dewey nominated as Republican candidate for the Presidency at the Republican National Convention in Philadelphia.
- June 24.** Railway traffic between eastern and western sectors of Berlin stopped on orders of the Soviet command.
- June 28.** The Communist Information Bureau, in session in Rumania, denounced Marshal Tito and the leadership of the Yugoslav Communist Party.
- June 30.** Last British troops left Palestine from Haifa, thus terminating the mandate.
- July 1.** Robert Schuman, premier of France, announced price cuts in certain products, but forbade any rise in wages.
- July 2.** Secretary-General of the Arab League states announced rejection of Bernadotte's proposals for settlement of the Palestine dispute.
- July 5.** Great Britain's National Health Service Plan became effective.
- July 6.** Great Britain, France, and the U.S., in parallel notes, called on the U.S.S.R. to lift her blockade of the western sectors of Berlin.
- July 7.** Netherlands elections gave a plurality to the government bloc headed by the Catholic People's Party.
- July 12.** Democratic National Convention opened in Philadelphia.
- July 14.** Palmiro Togliatti, Italian Communist leader, shot and gravely wounded by a Sicilian law student, Antonio Pallante.

Chronology for 1948—Continued

- July 15.** President Harry S. Truman nominated by Democratic National Convention as candidate for the Presidency.
- July 17.** J. Strom Thurmond, Governor of South Carolina, was nominated as candidate for the Presidency of the U.S. by the States' Rights Party Convention in Birmingham, Ala.
- July 19.** Hungary and Bulgaria signed a 20-year treaty of mutual aid.
- July 19.** The Schuman cabinet in France overthrown by a vote of 297 to 214.
- July 20.** A Federal Grand Jury indicted 12 Communist leaders on charges of advocating political views held subversive of the government of the United States.
- July 21.** Czechoslovakia and Rumania signed a treaty of friendship and alliance.
- July 22.** André Marie, Socialist-Radical, accepted invitation of the French President to form a new government.
- July 23.** The third party of Henry A. Wallace opened its first convention in Philadelphia, adopting the name Progressive Party.
- July 24.** The Progressive Party nominated Henry A. Wallace as candidate for President and Glenn H. Taylor as candidate for Vice President.
- July 24.** André Marie became premier of France.
- July 26.** Special session of the 80th Congress convened in Washington under instructions from President Truman.
- July 29.** King George VI opened the Olympic Games in London.
- July 30.** Zoltan Tildy announced his resignation as President of Hungary.
- July 30.** The Danube Conference opened in Belgrade, Yugoslavia with delegates of 10 countries in attendance.
- Aug. 2.** Envoys of Great Britain, France, and the U.S. were received by Stalin in Moscow.
- Aug. 3.** A. Szakasits, Chairman of the United Workers' Party, was elected President of Hungary.
- Aug. 5.** Rumanian government placed all education under state control.
- Aug. 7.** Poland and Czechoslovakia concluded an agreement for close coordination of long-term economic and industrial planning in both countries.
- Aug. 10.** The Arab League rejected Israeli proposals to discuss peace, on ground it did not recognize the state of Israel.
- Aug. 11.** Italian Catholic workers formed a new organization, the Confederation of Free Italian Workers.
- Aug. 12.** Mass demonstrations against high food prices took place in Frankfurt and other German cities in the American zone.
- Aug. 14.** Hungarian government published decree establishing agricultural cooperatives.
- Aug. 15.** The Republic of Korea was proclaimed in Seoul, with Dr. Syngman Rhee as President.
- Aug. 18.** The Soviet draft of the Danube Convention was passed, the U.S. voting against, Britain and France abstaining.
- Aug. 19.** Chinese government announced a new currency with a gold yuan valued at about 25 cents.
- Aug. 20.** The 17th Congress of the International Red Cross opened in Stockholm, with Count Bernadotte in the chair and 58 nations represented.
- Aug. 21.** The Central Action Committee of Czechoslovakia announced a complete reorganization of the Sokol system in accord with government objectives.
- Aug. 28.** In France the government of André Marie resigned over disagreement on finance measures proposed by M. Reynaud.
- Aug. 31.** Robert Schuman again became Prime Minister of France.
- Sept. 4.** Queen Wilhelmina of the Netherlands abdicated the throne in favor of her daughter, Princess Juliana of Orange and Nassau.
- Sept. 7.** The government of Robert Schuman was defeated in the French National Assembly, 295 votes to 289.
- Sept. 8.** The Scandinavian Conference of the Foreign Ministers of Denmark, Iceland, Norway, and Sweden met in Stockholm to discuss their common interests.
- Sept. 10.** Henri Queuille, Socialist-Radical, was elected Premier of France by the National Assembly, 351 to 196, with 47 abstentions.
- Sept. 12.** The Supreme National Assembly for Korea, meeting in the Soviet zone, unanimously approved a new government.
- Sept. 13.** Troops of the Dominion of India invaded Hyderabad from many points, advancing from 20 to 30 miles into the country.
- Sept. 17.** Martial law was proclaimed in Indonesia to facilitate the crushing of Communist uprisings.
- Sept. 17.** The United Nations Mediator in Palestine, Count Folke Bernadotte, and his aide, assassinated in the Israeli section of Jerusalem.
- Sept. 18.** The Nizam of Hyderabad formally surrendered to the troops of the Dominion of India.
- Sept. 20.** United Nations General Assembly made public Count Bernadotte's report on Palestine, with recommendations.
- Sept. 21.** House of Commons passed the bill to reform the House of Lords, which rejected it on Sept. 23.
- Sept. 21.** The Third General Assembly of the United Nations opened in Paris.
- Sept. 22.** The Arab Higher Committee, meeting in Damascus, announced the formation of a Palestine government with headquarters at Gaza.
- Sept. 26.** France, Britain, and the U.S. agreed to submit the problem of Berlin to the United Nations Security Council.
- Sept. 30.** General Francisco Franco received U.S. Senator Gurney and a party of U.S. Army and Navy officers in Madrid.
- Oct. 2.** Hungary and the U.S.S.R. signed a trade agreement on a barter basis.
- Oct. 3.** Czechoslovakia and the U.S.S.R. signed a trade agreement.
- Oct. 4.** 400,000 French miners went on strike in protest against government decrees.
- Oct. 4.** Field Marshal Lord Montgomery was appointed permanent Military Chairman of the Defense Council of the western European powers.
- Oct. 7.** Czechoslovak Parliament unanimously approved a severe law for the defense of the People's Republic.
- Oct. 10.** Carlos Prío Socarrás, of the Autentico Party, was inaugurated President of Cuba, succeeding Grau San Martín.
- Oct. 12.** General Dwight D. Eisenhower was inducted as the thirteenth President of Columbia University, New York.
- Oct. 14.** Dr. van Mook, Lieutenant-General of the Netherlands East Indies, resigned.
- Oct. 17.** Secretary of State George Marshall arrived in Athens and talked with government officials.
- Oct. 19.** In Japan the conservative cabinet of Premier Shigeru Yoshida was inaugurated by Emperor Hirohito.

- Oct. 19.** Soviet troops began their withdrawal from the northern zone of Korea.
- Oct. 22.** Hungarian Government issued a statement denouncing the treasonable activities of the Prince Primate, Cardinal Mindszenty.
- Oct. 22.** A German People's Council met in the Soviet sector of Berlin under the chairmanship of Wilhelm Pieck of the Socialist Unity Party.
- Oct. 25.** The South Pacific Commission began its sessions in Sydney, with delegates representing six nations.
- Oct. 25.** French police, security guards, and troops occupied numerous strikebound coal mines in the north of France.
- Oct. 26.** New session of British Parliament opened by King George VI.
- Oct. 27.** An extreme right-wing military revolt broke out in Peru, under the leadership of General Odría, ex-minister of the Interior.
- Oct. 27.** The British Trades Union Congress Council issued a statement denouncing Communism and recommending suspension of activities by the World Federation of Trade Unions.
- Oct. 28.** Large numbers of people in Stuttgart in the American zone of Germany, demonstrated against high prices and low wages.
- Oct. 30.** Chinese Communist armies occupied Mukden in Manchuria, capturing large supplies of arms.
- Nov. 2.** President Harry S. Truman received 49.87 percent of the vote in the presidential elections, defeating his Republican opponent, Thomas E. Dewey, 45.77 percent.
- Nov. 3.** The General Assembly of the United Nations unanimously adopted a Mexican proposal that the Great Powers renew their efforts to establish a lasting peace.
- Nov. 7.** The French electoral college of 100,000 delegates commenced voting for members of the Council of the Republic.
- Nov. 8.** Chiang Kai-shek called on the Chinese people to prepare for another eight years of civil war.
- Nov. 10.** British and U.S. authorities in Germany announced plans for the coordination of the Ruhr iron, steel, and coal industries.
- Nov. 12.** The International Military Tribunal of the Far East sentenced Hideki Tojo and 6 other Japanese war criminals to be hanged, and 17 others to life imprisonment.
- Nov. 13.** Poland, Belgium, and Luxembourg signed a mutual trade agreement in Brussels.
- Nov. 14.** The Rumanian Government fined the Astra-Romana Oil Company 4,000 million lei for robbery of oil from state properties.
- Nov. 15.** Moshe Shertok declared before the Political Committee of the United Nations that Israel would not relinquish its claim to the Negeb.
- Nov. 17.** The government of Dr. Malan introduced a national registration system in South Africa based on race.
- Nov. 18.** Premier Themistocles Sophoulis became head of a new Greek coalition Government of the Liberal and People's Party.
- Nov. 19.** The Socialist-Catholic coalition government of Belgium, under the premiership of Paul Henri Spaak, resigned.
- Nov. 20.** Czechoslovakia and Hungary signed a 5-year trade agreement.
- Nov. 22.** Kuomintang Government declared martial law throughout North China.
- Nov. 23.** The Venezuelan army took over the control of Venezuela.
- Nov. 26.** Paul Henri Spaak formed a new coalition government in Belgium.
- Nov. 26.** Dr. Sun Fo was elected Prime Minister of China by the Legislative Yuan.
- Nov. 28.** Madame Chiang Kai-shek left China by airplane for the United States.
- Nov. 29.** The Constituent Assembly of India approved an article in the draft Constitution forbidding the practice of untouchability.
- Nov. 29.** Mr. Shertok applied for admission of the state of Israel to membership in the United Nations.
- Dec. 2.** The U.S. and Soviet members of the Security Council of the United Nations supported the request of Israel to be admitted to membership.
- Dec. 2.** Chinese Communist armies entered Suchow.
- Dec. 3.** The Treaty of Rio de Janeiro, binding nations of the Western Hemisphere to mutual aid against aggression, came into force.
- Dec. 5.** Elections were held in the western sectors of Berlin, giving the Social Democrats 64.5 percent of the votes.
- Dec. 8.** Elections in Costa Rica for the Constituent Assembly gave the National Union Party of Dr. Ulati 33 of the 45 seats.
- Dec. 9.** The General Assembly of the United Nations unanimously adopted a draft convention declaring genocide a crime in international law.
- Dec. 9.** Lajos Dinnyes, the Prime Minister of Hungary, resigned, to be succeeded by Istvan Dobi, of the Smallholders Party.
- Dec. 10.** Costa Rica was invaded by armed forces from Nicaragua.
- Dec. 11.** Canada and Newfoundland signed the terms of agreement making Newfoundland a province of the Canadian confederation.
- Dec. 12.** The Third Assembly of the United Nations adjourned in Paris.
- Dec. 14.** Chinese Communist forces advanced to the outskirts of Peking.
- Dec. 15.** A military council took over the control of El Salvador, the President, Castaneda Castro, resigning.
- Dec. 19.** The Republic of Indonesia reported the bombing of Jogjakarta by airplanes of the Netherlands airforce.
- Dec. 20.** The United States Supreme Court disclaimed jurisdiction in the appeal of the Japanese war criminals sentenced by the International Military Tribunal.
- Dec. 21.** Chinese Communist forces captured Tangtu, port city 30 miles east of Tientsin.
- Dec. 21.** President O'Kelly of Eire signed the Republic of Ireland Bill severing the last constitutional ties with Great Britain (to become effective in the Spring of 1949.)
- Dec. 23.** Hideki Tojo and six of his most prominent collaborators in the war against the Allied Powers, were hanged outside of Tokyo.
- Dec. 23.** Great Britain and Yugoslavia signed a trade agreement.
- Dec. 27.** The Hungarian Government announced the arrest of Cardinal Mindszenty on charges of treason, espionage, and sabotage.
- Dec. 28.** Mahmoud Fahmy Nokrashy Pasha, Prime Minister of Egypt, was assassinated in Cairo by a student member of the Moslem Brotherhood.
- Dec. 31.** The 80th Congress of the U.S. ended.

THE NEW INTERNATIONAL YEAR BOOK 1948

ACADEMY, French (Académie Française). The oldest of five academies which make up the Institute of France and officially considered the highest; founded in 1635. The membership is limited to 40. The list of Immortals in 1948, in order of their election, was as follows: 1919—Henry-Camille Bordeaux; 1920—André Louis Chevrillon; 1924—Georges Lecomte; 1925—Duc de la Force; 1927—Mathieu Emile Mâle and Louis Madelin; 1930—André Chaumeix; 1931—Pierre Benoit and Maxime Weygand; 1933—François Mauriac; 1934—Duc de Broglie and Léon Bérard; 1935—Claude Farrère and Georges Duhamel; 1936—Edmond Jaloux, Maurice Genevoix, Admiral Lacaze, Georges François Marie Grente, and Jacques de Lacretelle; 1938—André Maurois and Jérôme Tharaud; 1944—Prince de Broglie, Pasteur Vallery-Radot, and André Siegfried; 1945—Edouard Le Roy and Emile Henriot; 1946—Baron Seillière, Jean Tharaud, René Crousset, Edouard Herriot, René d'Harcourt, Paul Claudel, Maurice Garçon, Comte Charles de Chambrun, Maurice Pagnol, Henri Mondor, Jules Romains, and Etienne Gilson.

ACADEMY OF ARTS, Royal. The Royal Academy of Arts, founded by King George III in 1768, is maintained, through the public support of its exhibitions, for the promotion of the Fine Arts. The membership consists of 40 Academicians and 30 Associates, elected by ballot by the members from among the outstanding painters, sculptors, architects, and engravers practising in Great Britain.

During 1948 the Royal Academy continued to hold till March an exhibition of Art, chiefly from the Dominions of India and Pakistan; its 180th Summer Exhibition (May 1–August 8); and two autumn exhibitions of Design for Industry and of past students of the Royal College of Art.

Officers of the Royal Academy for 1947 were: President and Trustee, Sir Alfred J. Munnings; Keeper, Philip Connard; Treasurer and Trustee, E. V. Harris; Trustees, Sir William Reid Dick and W. Russell Flint; Secretary, Sir Walter R. M. Lamb. Headquarters: Burlington House, London, W.1, England.

ACADEMY OF ARTS AND LETTERS, American. A society founded in 1904 by members of the National Institute of Arts and Letters. Membership is limited to 50, vacancies being filled by elections from the membership of the Institute.

On May 21, 1948, a Special Meeting of the Academy was held, followed by the seventh Public Ceremonial given jointly with the National Institute of Arts and Letters at which new members of

the Academy and Institute were inducted, fifteen \$1,000 "Arts and Letters" grants given, and medals awarded. An exhibition of works by newly elected members of both organizations, and Grantees in Art, was opened on the same day in the Art Gallery, and continued through June 30. On November 23 the Annual Meeting of the Academy was held at the Academy Building.

The membership as of November, 1948, consisted of the following, in the order of their election: Bliss Perry, Archer Milton Huntington, James Earle Fraser, Robert Frost, James Truslow Adams, Adolph Alexander Weinman, Walter Damrosch, Anna Hyatt Huntington, Paul Manship, Eugene O'Neill, Henry Dwight Sedgwick, Walter Lippmann, M. A. De Wolfe Howe, Frank Jewett Mather, Jr., Deems Taylor, Van Wyck Brooks, Herbert Putnam, William Adams Delano, Charles Warren, Bernard Berenson, Chauncey Brewster Tinker, Albert Spalding, Sinclair Lewis, Thornton Wilder, Edna St. Vincent Millay, Carl Sandburg, Agnes Repplier, Charles Hopkinson, Eugene Speicher, Henry R. Shepley, John Alden Carpenter, John Sloan, Barry Faulkner, Edward W. Redfield, Gifford Beal, Frederick Law Olmsted, Ernest Bloch, John Marin, Douglas Southall Freeman, Robinson Jeffers, Lee Lawrie, Archibald MacLeish, Gilmore D. Clarke, John Dos Passos, Mahonri Young, John Taylor Arms, William Faulkner, John Steinbeck, Leon Kroll, and Mark Van Doren.

Officers (elected in 1948): President, Paul Manship (Walter Damrosch retired in March, 1948); Chancellor and Treasurer, James Truslow Adams; Secretary, Archibald MacLeish. Administrative offices: 633 West 155th St., New York 32, N.Y.

ACADEMY OF SCIENCE, Finnish (Suomalainen Tiedakatemia). The Finnish Academy of Science was founded in 1908 for the purpose of furthering the advancement of scientific research. Membership totals 105 academicians for the two sections: Mathematics and Natural Sciences, and Humanities. There are also 12 honorary members and 39 corresponding members. Officers for 1948–49 are: President, Yrjö Ilvessalo; Secretary General, Emil Ohman. The Academy publishes *Annales Academiæ Scientiarum Fennicæ* (Series A and B), *Documenta Historica, Communications* (Folklore), and *Proceedings*. Headquarters: Säätytalo, Helsingfors, Finland.

ACADEMY OF SCIENCE AND ART, South African (Suid-Afrikaanse Akademie vir Wetenskap en Kuns). Founded in 1909 for the advancement of the Afrikaans language, literature, arts, science, and technology.

are again full, and competition for the consumer's dollar has increased steadily throughout the year. The general effect of these changes on advertising has been an intensified search on the part of advertisers for the most favorable means of realizing greater returns from their advertising appropriation. Their selection of media has become more highly critical. Copy and techniques of presentation have acquired a much sharper selling edge. More attention is being paid to pretesting the effectiveness of individual advertisements before releasing them on full-scale campaigns.

Television. The most conspicuous advertising development during 1948 has been in television. According to one of the leaders in the radio industry, "Television's repercussions within three, or four, or five years will have a more profound effect upon the social, economic, and educational life of the United States than the automobile had in its first twenty years."

The following figures afford some indication of the trend behind that statement. In 1946, there were 6,485 home television receivers in the United States; in 1947, there were 178,571. By the end of 1948, it is estimated that 750,000 homes were covered and, according to the Television Broadcasting Association, there will be 1,106,000 home receivers by the close of 1949. In October, 1948, there were 37 television stations on the air, 86 in process of construction; and the Federal Communications Commission had applications on file for 302 more.

Although the impact of television on radio and on other advertising media is already beginning to make itself felt, it is likely that this brilliant new mass medium will build a niche of its own without too swiftly revolutionizing the positions of radio, newspapers, or consumer magazines.

Radio Advertising. In 1922, the number of homes owning radio sets was negligible. In 1948, there were estimated to be 73 million radio sets in use, including coverage of 37 million homes. Nearly every American family with spending power—the consumer advertiser's objective—has a radio. These listeners were served by 1,962 broadcasting stations. The 1947 advertising investment in radio time, talent, and production costs amounted to over \$530 million. This compares with an expenditure of \$200 million in 1940.

Magazine Advertising. Despite the great growth in radio advertising expenditures, both general magazines and newspapers not only appear to be holding their own, but to be expanding their claims for advertising volume. The final 1947 dollar volume for national magazine advertising as computed by the Publishers Information Bureau was slightly more than \$442 million. This compares with a *Printers' Ink* figure of \$430.4 million for 1946. The Magazine Advertising Bureau estimates a 1948 dollar volume of \$450 million, thus maintaining an upward trend, though at a slightly decelerated rate.

During 1948, *Printers' Ink* published an interesting table showing the course of magazine circulation development from 1905 to 1947, as follows:

COMBINED MAGAZINE CIRCULATIONS

Year	Mail Order	Women's	General
1905.....	23,000,000	5,000,000	10,000,000
1920.....	12,000,000	22,000,000	23,000,000
1930.....	7,000,000	26,000,000	41,000,000
1947.....	36,000	27,000,000	103,000,000

Newspaper Advertising. Newspapers will show a 1948 national advertising total estimated at \$434 million. This is the third consecutive all-time high

and compares with the 1947 expenditure of \$360 million, according to the Bureau of Advertising, American Newspaper Publishers Association. In 1947, there were 1,769 daily newspapers in the country, with a combined circulation of 51,673,276. In 1940, the last full year before the war, there were more daily newspapers, 1,878 to be exact, but the total combined circulation was less, only 41,131,611.

Business Paper Advertising. For the last ten years, the volume of advertising in business and industrial publications has exhibited an unchecked growth. In 1938, the dollar volume was approximately \$58 million; in 1947, it was \$196 million. Partial figures for 1948 indicate a continuance of that upward trend in dollar volume, although actual use of space had decreased somewhat.

Although the business paper share of the country's \$4,000 million total advertising investment is small, the effectiveness of these publications as expeditors of information at the grassroots of our economy is great, and the volume of transactions fostered by business paper advertising is out of all proportion to its low cost.

Direct Mail. The use of the mails for sales letters, brochures, bulletins, booklets, catalogs, and other commercial forms of the printed word not appearing in regular publications very nearly equals in expenditure, if it does not actually exceed, radio's \$530 million. In 1936, expenditures for direct mail advertising were \$266 million; in 1940, \$279 million; in 1947, \$483 million; and in the first nine months of 1948, they were 30 percent over the first nine months of 1947.

Space does not permit recording the conditions and trends affecting and affected by other forms of advertising, such as outdoor signboards, car cards, packaging, premiums, films; nor to discuss the growth of the public and employee relations ideas that business and industry are implementing with increasing expenditures. However, such facts as have been presented suggest the importance that business and industry attach to the use of advertising in its various forms as a selling and opinion-molding tool, increasing as competition becomes sharper and business organizations fight to hold their individual and collective spots in the economic sun.

The problem of distributing the products of industry to the 140-odd million people who inhabit the cities and towns and hamlets and farmlands of America is a problem not only of making those products easily available but of making them known to the greatest possible number of individuals who are likely to be interested in their purchase and use. Advertising is the means of dispersing that information throughout the land.

—J. R. VAN ARSDALE

ADVISORY COMMITTEE ON VOLUNTARY FOREIGN AID.

A committee, established on May 15, 1946 by letter from the President to the Secretary of State and the Secretary of Agriculture, to tie together the Governmental and private programs in the field of foreign relief and to facilitate the organization of voluntary relief resources at home and their administration abroad. It is an advisory and expediting body, successor to the President's War Relief Control Board. There are six committee members: Charles P. Taft (Chairman), William Batt, Dr. William I. Myers, Lessing J. Rosenwald, Dr. Joseph P. Chamberlain, and Francis P. Matthews.

The Committee registers United States voluntary nonprofit relief agencies. These agencies file with the Committee their programs, budgets, financial

statements, and reports of relief exports for public inspection. Based on this information, the Committee formulates policies and procedures to facilitate the operations of the agencies in relation to the controls in the foreign field of the Departments of State, Treasury, Justice, Agriculture, Commerce, and Army, the Economic Cooperation Administration, the International Refugee Organization, and the International Children's Emergency Fund of the United Nations.

Assistance in relief and rehabilitation given by the American people through the voluntary agencies is supplementary to the programs of the United States Government and the United Nations organizations. The value of this assistance sent abroad by agencies registered with the Advisory Committee on Voluntary Foreign Aid during the fiscal year 1948 was \$130,950,301.

—CHARLES P. TAFT

AEGEAN ISLANDS. The islands in the Aegean Sea, near Turkey in Asia. Formerly (1912-14) under the rule of Italy, the islands were officially incorporated in the kingdom of Greece, Mar. 7, 1948. The award was confirmed in the terms of the Peace Treaty between the Allied Powers and Italy, signed at Paris on Feb. 10, 1947, and which came into force at midnight, Sept. 15, 1947. Included in the islands are the Dodecanese (Astropalia, Casos, Lipso, Nisyros, Patmos, Symi, Tilos), Rhodes, and Castelrosso. Total area: 1,035 square miles. Total population (1947 census): 115,913.

Production. Among the agricultural products are grapes, olives, tobacco, oranges, and vegetables. The main industries are sponge fishing, and the manufacture of tobacco, wine, olive oil, oriental carpets, and artistic pottery and tiles. Governor General: Dr. Nicholas Marvis.

AFGHANISTAN. A kingdom in central Asia. Area: 251,000 square miles. Population, according to the latest estimate, 12 million. Chief towns: Kabul (capital) 300,000 inhabitants, Kandahar 100,000 (including suburbs), Herat 160,000, Mazar-i-Sharif 50,000. Afghanistan has an extreme width from the northeast to the southwest of 700 miles, and its length from the Khyber Pass to the Herat frontier is about 600 miles.

Religion and Education. Most of the people are Moslems of the Sunni sect, though there is a minority of a million Shiah Moslems. Persian and Pashto are the principal languages. The legal system is based partly on the Shariat (Moslem laws), and partly on secular Western law.

In 1947 there were 329 primary schools, 49 secondary schools, and 12 technical schools and colleges, four of which form Kabul University, established in 1932. Primary education is compulsory. All schooling is at Government expense. Recently teachers have been brought from the United States, France, and Austria, and government students went abroad to study in the United States and elsewhere. The Education Ministry plans expanded secondary and college facilities.

Production. Agriculture and stock raising are the chief occupations, the main products being cereals, fruits, nuts, vegetables, cotton, wool, hides and skins, and meat from the native fat-tailed sheep. The mineral resources include iron, copper, lead, gold, silver, lapis lazuli, coal, manganese, beryl, and chrome. Although production is below capacity, the early development of mineral deposits is planned. More than 50 corporate business firms (shirkats) with capital ranging from 10 to 350 million afghanis (\$25 million), produce boots, mili-

tary clothing, furniture, matches, buttons, leather, soap, cotton goods, and wool products. Arms and ammunition are state-manufactured.

Foreign Trade. Commerce is mainly with the United States, which takes three-fifths of all exports (primarily karakul fur), India, and the U.S. S.R. Chief exports are: fruits, nuts, timber, spices, cotton, carpets, wool, and furs. Cotton textiles, machinery, gasoline, kerosene, sugar, motor vehicles, and tea are the main imports, coming primarily from the United States and India. Total commercial exports and imports have averaged 1,500 million afghanis annually (\$107 million). During 1947-48 purchase contracts with Japanese and German firms were concluded and the Soviet trade agreement renewed. Negotiations have been begun for a commercial treaty with India.

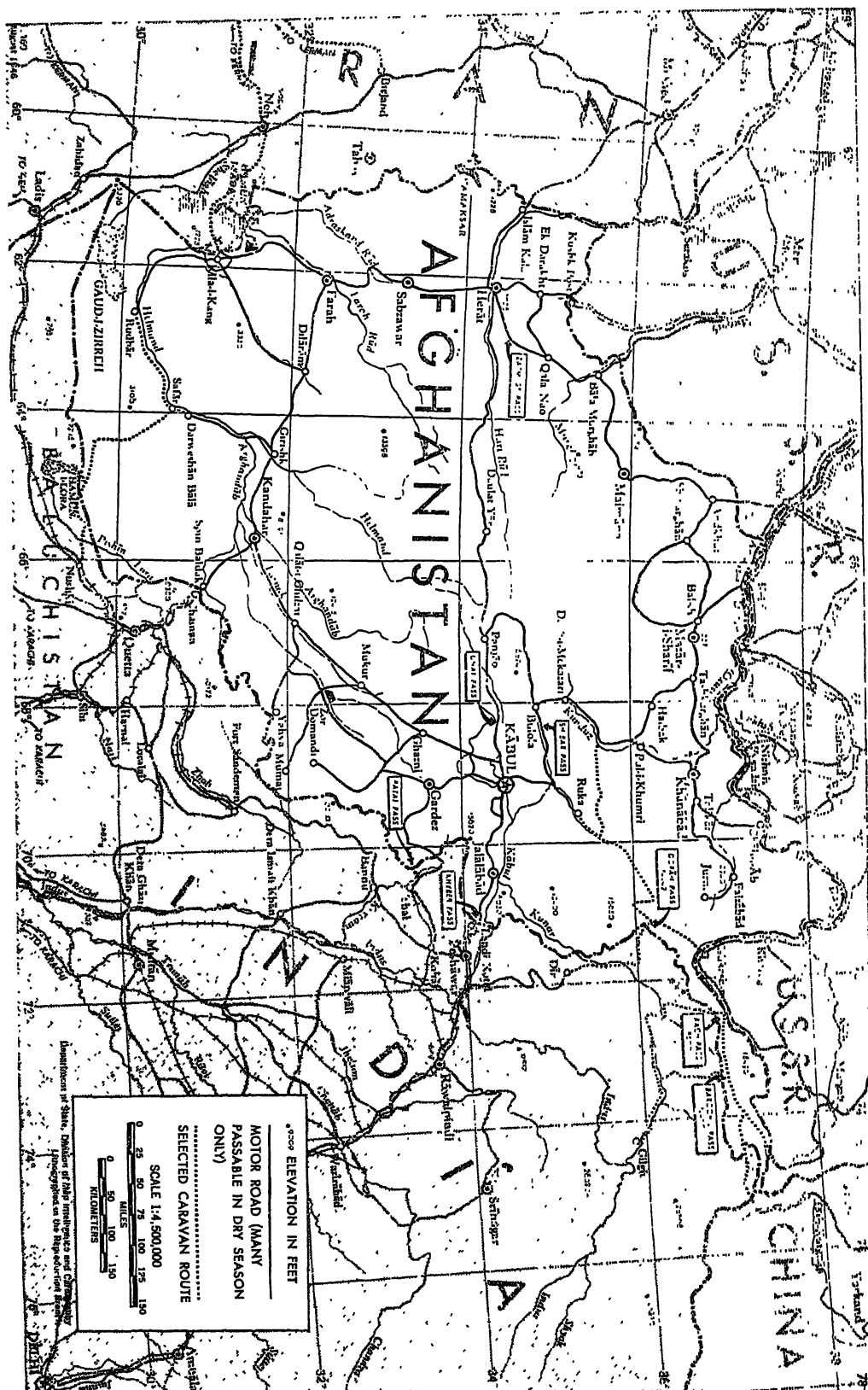
Finance. Government revenues have been increasing sharply. The regular 1947 budget exceeded 400 million afghanis (\$28.5 million). Revenues are derived one-third from export and import tariffs, one-third from cattle, income and land taxes, and one-tenth from governmental commercial transactions and investments, and taxes on monopolies (sugar, petroleum products, and automobiles). Deficit financing through central bank loans was negligible. The Bank Millie Afghan (National Bank of Afghanistan), a large commercial and traders bank, promotes many industrial and commercial enterprises. The Da Afghanistan Bank, operating a note issuing and banking department, is responsible for a stable money system and helps the Finance Ministry control foreign exchange. The paper currency is backed by a substantial gold, silver, and foreign exchange reserve.

Transportation. Afghanistan has no railways and practically no navigable rivers. Four thousand miles of roads are suitable for motor transport in dry weather, and trucks are increasingly replacing pack animals as the chief means of transportation. There is an all-weather motor highway from Kabul to Peshawar, India; a 500-mile motor route from Stalinabad, Soviet Turkestan, to Khorog on the Afghan border; and a trade route linking Kandahar to the Indian railroad at Chaman. Telephones are installed in most of the towns. There is a government-operated radio service.

Government. Under the Constitution of Oct. 31, 1931, Afghanistan is a constitutional monarchy, with legislative power vested in the King, a Senate of 45 members nominated for life, and a National Assembly of 138 elected members. From time to time the Great Assembly (Loe Jirga) of about 1,200 delegates convenes to decide important issues, including war and the king's election.

The reigning king, Mohammed Zahir Shah, succeeded his father after the latter's assassination in 1933. His father's proclamation of the new Constitution was accompanied by a statement reaffirming the abolition of slavery and forced labor first outlawed in 1908. A stabilized central Government and strengthened provincial administration have supplanted the royal family's earlier patriarchal rule over the loosely federated tribes.

Events, 1948. During the year there was an increase in exchange with the United States of teachers, students, and experts. The election of a new Kabul city administration produced significant economic and civic changes. Increased participation in UN (United Nations) affairs was evidenced by attendance at the Conference on Trade and Employment, and by membership in the World Health Organization (WHO) and UNESCO—out of whose November conference



developed plans for a 1949 UNESCO educational survey of Afghanistan.

An agreement between the U.S.S.R. and Afghanistan was ratified at Tashkent on Oct. 31, 1948, fixing the frontier between the two countries. No details were made public.

Economic Development Plan. The government in cooperation with the Banke Millie Afghan (National Bank of Afghanistan), business leaders, and United States and East Indian engineering firms, implemented an economic development plan providing chiefly for road-building and the cultivation and reclamation of much cultivable land through irrigation and modernization of agricultural techniques. Increased crops, some for export, would include cotton, fruits, vegetables, sugar beets, and grains. The plan includes the expansion of the cotton textile industry and electric power stations, and the erection of building-material plants. Total investments were estimated at \$120 million over a 5-year period. Forty percent was to be furnished by business, the remainder by special government loans and foreign exchange reserves.

—DOROTHEA SEELYE FRANCK

AFRICA. The second largest continent, situated in the eastern hemisphere. Area, about 11,710,000 square miles (30,330,000 square kilometers). Population (Jan. 1, 1940, estimate), 157,900,000. See the separate articles on its subdivisions, countries, and territories, such as ALGERIA, EGYPT, ETHIOPIA, KENYA, MOROCCO, FRENCH MOROCCO, SPANISH MOROCCO, UNION OF TUNISIA.

AGRICULTURAL COOPERATION. Farmers' marketing and purchasing cooperatives, although remaining about the same in number, experienced an increase in their membership and volume of business during 1947.* The number of associations which includes independent local associations, federations, large-scale centralized associations, and sales agencies totaled 10,125, of which 7,268 were predominantly marketing associations and 2,857 were purchasing associations. The total membership in these two groups was 5,436,000, compared with 5,010,000 a year earlier. This membership, however, does not represent the actual number of cooperating farmers since many are members of more than one association. The combined business of these two groups was \$7,116,000,000 for 1946-47 as against \$6,070,000,000 for the previous year. The increase in dollar volume reflects advancing price levels.

Grain cooperatives continued in first place in volume of business. There was a slight decrease in number of associations but substantial increases in membership and volume. Both local and regional cooperatives continued to enlarge elevator facilities and to install new equipment to speed up the handling of grain. They have continued to build up reserves and to improve their financial position.

Dairy cooperatives held second place in the value of sales, showing a substantial increase over the previous year. In general, prices for dairy products were maintained during 1948. Erratic fluctuations, however, provided many inventory headaches for managers of both merchandising and fluid-milk bargaining associations. As a result, milk bargaining and merchandising associations in several areas attempted to devise new means to increase production during the fall and winter months and thus stabilize prices.

Fruit and vegetable cooperatives ranked third

in sales volume. Achievements during the year were characterized by economies of operation and the adoption of improved procedures and merchandising practices. These were prompted by increased costs of labor, materials, equipment, transportation, and other items, coupled with sharp reductions in prices received for many fruits and vegetables. Failure to reestablish exports in the volume anticipated was also felt keenly. Fruit and vegetable cooperatives continued to make progress in processing, and are gradually becoming more active in the packing of fresh products in consumer-size packages.

Livestock cooperatives ranked fourth in the marketing field. The main expansion took place at country points through the establishment of decentralized and localized services for marketing livestock. In some states, there are now as many as 25 points where farmers can market livestock cooperatively. Interest in the cooperative processing and rendering of inedible products continued. Several cooperatives handling wool constructed new warehouses and expanded the service of grading and appraising wool in the producing areas.

Cooperative cotton gins increased in number, particularly in the lower Rio Grande Valley of Texas. Generally, cooperative gins are increasing in size, installing improved cleaning and drying equipment, expanding their services by handling farm supplies, extracting cottonseed oil, and distributing cottonseed. Cooperative cottonseed- and soybean-oil mills are showing increased interest in the new solvent oil extraction process.

Cooperative marketing of poultry products moved along at a steady pace in most instances. A few new associations were organized in 1948 but existing cooperatives are responsible for most of the development. Better processing cooperatives experienced difficulties during the past year due mainly to lack of experience, heavy investments for building and equipment, strong competition, and the relative instability of this industry. Turkey marketing cooperatives have continued efforts to create a market for turkeys throughout the year.

Tobacco producers continued to use the services of their cooperative stabilization organizations as agencies to obtain production loans and to market tobacco. Rice producers continued to experience successful operations through their cooperative mills during 1948. Honey producers have been studying possibilities for organizing new marketing cooperatives in different sections of the country to help stabilize prices in those areas. Cooperatives handling dried beans in the West organized a central sales agency which handled 95 percent of their volume this year.

Purchasing cooperatives, in general, experienced their best year in 1948. A few cooperatives had less successful operations than in the previous year due mainly to excessive inventories and accounts receivable and increased competition. The principal development among cooperatives in the petroleum business was the purchasing of eight oil refineries during the year and the acquiring of sources of additional crude oil. Two cooperatives whose major business is petroleum now either own or control approximately 50 percent of their crude oil requirements.

Many new fertilizer mixing plants were built by cooperatives and several also constructed superphosphate acidulation plants. A federation of midwestern regional cooperatives acquired deposits of phosphate rock in Idaho and potash in New Mexico. Several purchasing associations continued the development of marketing services, particularly for

* Figures released by the Farm Credit Administration, Cooperative Research and Service Division in 1948 are for the year 1946-47.

grain, poultry, and eggs. The past year has in general been one of consolidation of gains by feed cooperatives; however, several built new mills. The cooperative manufacture and distribution of farm machinery made definite progress in 1948.

Frozen food locker associations constructed fewer additional plants during the year. High costs of construction and a reduced demand for lockers by patrons were a restraining influence. The associations continued to expand, however, and to diversify their services, particularly those of slaughtering and processing livestock and poultry.

The amount of insurance carried with the farmers mutual fire insurance companies reached an all-time high in 1948, while loss ratios and other costs remained less than average. Several new associations were organized by State Farm Bureaus. Farmers mutual telephone companies generally need a program of rehabilitation, and preliminary work in this direction is being undertaken.

About 850 rural electric cooperatives were supplying power to about two-fifths of the four million farms which had central station electric service on June 30, 1948. During the preceding 12 months, farm electrification increased from 61 percent to 68.6 percent of the nation's farms. More than half of this increase was accomplished by cooperatives financed with loans from the Rural Electrification Administration (REA). These electric cooperatives in 1948 provided service for several hundred thousand additional farms and also for approximately 100,000 other new rural consumers, including non-farm residences, schools, churches, commercial establishments, and rural industries.

During 1948 farmers in many sections of the country showed increased interest in the problems of rural health. Farmer cooperatives joined in health discussions and planning councils, contributed funds to build local hospitals and clinics, and helped finance the education of medical students. The growth of health cooperatives has been slow because of high building and operating costs, shortage of doctors and nurses, and lack of information by local people. Mutual health insurance plans, however, have expanded.

Cooperatives, as a group, entered into many activities designed to improve functional operations and to meet problems of membership and finance. Freight rates have increased about 50 percent since the end of 1946. To help reduce these costs and improve services, some cooperatives inaugurated transportation and shipping associations, or expanded those already operating. The National Council of Farmer Cooperatives set up a national agricultural cooperative transportation committee to serve as a clearing house for its members. Training programs for directors and operating personnel were instituted or expanded by many associations. More associations adopted employee insurance and retirement plans and improved welfare programs.

The large associations recognize the increased difficulty of keeping members informed and maintaining an attitude of ownership responsibility. Several issued informative booklets and all made full use of house organs and strove to increase attendance at annual and other meetings. State cooperative councils have been active in educational work—sponsoring clinics, publishing pamphlets, and getting information regarding cooperatives to the public. The American Institute of Cooperation has worked closely with educational groups, particularly teachers in high schools and colleges. Cooperatives have been interested in projects carried on under the Research and Marketing Act to improve marketing and utilization of farm products.

Increased farm operating costs were reflected in the increased volume of credit extended by the institutions supervised by the Farm Credit Administration during the year ended June 30, 1948. Total loans to farmers and their cooperatives amounted to nearly \$1,800 million compared with \$1,500 million in the previous year. The 503 production credit associations made loans totaling about \$850,000,000. These associations are making continued progress toward complete farmer ownership, the capital stock owned by Farm Credit agencies now being less than 25 percent of their total net worth. The 12 Federal Land Banks and the localized National Farm Loan Associations are now completely farmer-owned and their loans closed during the fiscal year ended June 30, 1948, were approximately \$140,000,000. The 13 banks for cooperatives serving 1,559 farmer cooperatives with a membership of 2½ million made loans totaling about \$547,000,000.

In summary, 1948 was, on the whole, a satisfactory year for farmers' cooperatives, with prices and demand generally stable. Farmers' equities in their cooperatives at the end of 1947 were almost \$1,000 million and there was a substantial additional increase during 1948. These equities, though assuming importance in the list of farmers' total assets, are still only a fraction of the total investment in farms and production facilities. Members and management have increased confidence in the value and stability of agricultural cooperatives. At the same time they are aware of the problems that must be met to maintain and increase the services cooperatives can provide for farmers in the United States.

—HAROLD HEDGES

AGRICULTURAL ECONOMICS, Bureau of. A Bureau of the U.S. Department of Agriculture created in 1922 by the merger of two existing units. It is the central statistical and economic research agency of the Department. It acquires, analyzes, interprets, and distributes economic information relating to Agricultural production and distribution and to land utilization and conservation in its broadest aspects. It collects, compiles, analyzes, summarizes, and publishes extensive data relating to agriculture and foods. Chief: Oris V. Wells.

AGRICULTURAL RESEARCH ADMINISTRATION. The Agricultural Research Administration was established late in 1941 to direct and coordinate research in the U.S. Department of Agriculture. The Administration comprises seven research agencies, operates a 12,000-acre research center at Beltsville, Md., and coordinates all other Department research in the physical and biological sciences. Dr. P. V. Cardon is Research Administrator.

Many of the current projects are carried on under the Research and Marketing Act of 1946. Close cooperation is maintained with the State agricultural experiment stations and other research organizations. Brief statements on the functions of the agencies comprising the Administration and a few examples of the past year's research results follow.

Bureau of Agricultural and Industrial Chemistry. The work of this bureau is directed toward finding new and wider industrial and food uses for farm products. It operates four large regional research laboratories and 12 field stations located throughout the United States. Each of the four laboratories works on selected products of particular importance in its region. The Northern Regional Research Laboratory, at Peoria, Ill., deals with corn, wheat, and other cereal crops, soybeans and other oilseeds, and ag-

ricultural residues, such as corn cobs, straws, and hulls; it works for the improvement of fermentation processes and products and maintains one of the largest collections of molds and other micro-organisms in the United States.

The Southern Laboratory, New Orleans, La., concentrates on cotton, peanuts, sweet potatoes, and rice. At the Eastern Laboratory, Philadelphia, Pa., tobacco, apples, potatoes, leafy vegetables, milk products, hides and skins, tanning materials, animal fats and oils, and honey and maple products are the chief commodities under consideration.

The Western Laboratory, located at Albany, near San Francisco, Calif., conducts research mainly on fruits, vegetables, wheat protein, alfalfa, poultry products, wool, and dried beans and peas. In other research divisions the problems considered relate to processing and utilizing the products and by-products of pine gum, tung nuts, sugar plants, and citrus and other fruits; the preservation of vegetables by brining or fermentation; the extraction and processing of rubber from guayule plants; and the production of liquid motor fuels from crop wastes. Fundamental research is conducted on the chemistry and immunology of allergens existing in agricultural products, biologically active chemical compounds, the nature and control of enzyme action, substances with possible medicinal uses, and micro-organisms in processed foods.

During the past year, processes were perfected at the Northern Laboratory for making two types of useful products from wheat straw, nearly half the 95 million tons of which produced annually in the United States is now wasted. Fine paper of the better grades and insulating building-board can both be made commercially from wheat straw by the new processes. For the papers, the straw would be combined with wood pulp.

Leaf meals of high protein and vitamin A value were prepared from field and packing-house wastes of beets, broccoli, carrots, and other vegetables at the Eastern Laboratory. Poultry-feeding tests were of value. An improved process for extracting an oil suitable for salad and cooking from the seed-coating and germ removed from rice in milling was developed at the Southern Laboratory. It is estimated that 20 million lb. of such oil might be recovered as a by-product of the United States rice crop each year.

The synthetic-liquid fuels project reached the stage of converting corn cobs into motor fuel. Blends of 5 parts regular gasoline and 1 part corn-cob alcohol performed in a high-compression motor as well as 90-octane gasoline.

A promising new antibiotic named subtilin was discovered at the Western Regional Laboratory. It was found to be effective in culture against micro-organisms that cause tuberculosis, bovine mastitis, and several other serious animal and human diseases.

Bureau of Animal Industry. This bureau's functions relate to the breeding, feeding, and management of domestic animals, poultry, and fur-bearing animals raised in captivity; control of animal diseases and parasites; improvement of animal products; and the enforcement of livestock laws and regulations, including quarantines, meat inspection, and inspection of other animal products. Many of the bureau's activities are in cooperation with State and other agencies.

Cooperation with Mexico was continued in the effort to suppress an outbreak of foot-and-mouth disease that began in that country in 1946. The original plan to attempt eradication of the disease by slaughtering all affected and exposed animals

was modified. The goal of the less drastic program is prevention of the spread of the disease, especially of its introduction into the United States, gradual reduction of the infected area, and eventual complete eradication.

More purebred animals were certified for entry into the country for breeding purposes during the fiscal year 1948 than in any previous comparable period. Such animals are admitted free of duty except from countries where certain animal diseases are present and from which importations are restricted.

More than a million calves were vaccinated in a campaign to eradicate brucellosis. It was shown that spraying anemic cattle infested with lice with DDT cured the anemia.

Crossbred pullets of Rhode Island Red and White Leghorn breeds produced more eggs than those of either parent breed, in investigations at Beltsville, Md. Benzene hexachloride proved to be effective in treating sheep for scabies.

Bureau of Dairy Industry. The principal functions of this bureau are breeding and feeding dairy cattle for the highest possible production of milk and butterfat, and improving dairy products and by-products. Results continued to be favorable in the cross-breeding experiment with various breeds of dairy cattle. Cows with the mixed blood of three breeds produced more butterfat on an average than their two-breed dams. A requirement for such improvement is the use of sires proved to pass on high milk and fat producing ability to their daughters, regardless of breed.

Feeding tests showed that dairy cows can maintain satisfactory growth and milk production on a ration containing less protein than formerly recommended.

Penicillin was found to control mastitis in 88 percent of affected cows treated in the bureau herd. It appeared that the organism believed chiefly responsible for the disease is less prevalent as a cause than some related forms.

Experiments to determine the effects of thyroprotein when fed to dairy cows to stimulate milk secretion show that feeding the drug increases milk production temporarily if extra feed is given, but that the increase in milk yield is accompanied by accelerated heart action and respiratory activity. The use of thyroprotein by dairy farmers is not recommended. Fortifying milk with vitamin C (ascorbic acid) was found to prolong the keeping quality of milk in frozen storage.

Bureau of Entomology and Plant Quarantine. The search for more effective materials and methods for controlling insect pests, the study of beneficial insects such as bees, and the enforcement of quarantines to prevent the spread of insects and plant diseases are the main functions of this bureau.

Among new insecticidal materials under test are chlordane, chlorinated camphene, and parathion. Each of these promises to be effective against certain insects, in some cases more effective even than DDT. Parathion is especially promising as a killer of certain fruit insects, adult and larval mosquitoes, and adult houseflies. This chemical is highly toxic to man, however, and its general use cannot be recommended at present.

It was shown in both laboratory and field tests that corn growing in soil treated with parathion absorbed enough of the chemical to kill larvae of the European corn-borer feeding on it. A method for detecting the amount of weevil infestation in stored wheat and other grains was developed. Grain samples soaked for 10 minutes in a dye solution containing acid fuchsin and then washed

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About 850 rural electric cooperatives were supplying power to about two-fifths of the four million farms which had central station electric service on June 30, 1948. During the preceding 12 months, farm electrification increased from 61 percent to 63.6 percent of the nation's farms. More than half of this increase was accomplished by cooperatives financed with loans from the Rural Electrification Administration (REA). These electric cooperatives in 1948 provided service for several hundred thousand additional farms and also for approximately 100,000 other new rural consumers, including non-farm residences, schools, churches, commercial establishments, and rural industries.

During 1948 farmers in many sections of the country showed increased interest in the problems of rural health. Farmer cooperatives joined in health discussions and planning councils, contributed funds to build local hospitals and clinics, and helped finance the education of medical students. The growth of health cooperatives has been slow because of high building and operating costs, shortage of doctors and nurses, and lack of information by local people. Mutual health insurance plans, however, have expanded.

Cooperatives, as a group, entered into many activities designed to improve functional operations and to meet problems of membership and finance. Freight rates have increased about 50 percent since the end of 1946. To help reduce these costs and improve services, some cooperatives inaugurated transportation and shipping associations, or expanded those already operating. The National Council of Farmer Cooperatives set up a national agricultural cooperative transportation committee to serve as a clearing house for its members. Training programs for directors and operating personnel were instituted, or expanded by many associations. More associations adopted employee insurance and retirement plans and improved welfare programs.

The large associations recognize the increased difficulty of keeping members informed and maintaining an attitude of ownership responsibility. Several issued informative booklets and all made full use of house organs and strove to increase attendance at annual and other meetings. State cooperative councils have been active in educational work—sponsoring clinics, publishing pamphlets, and getting information regarding cooperatives to the public. The American Institute of Cooperation has worked closely with educational groups, particularly teachers in high schools and colleges. Cooperatives have been interested in projects carried on under the Research and Marketing Act to improve marketing and utilization of farm products.

Increased farm operating costs were reflected in the increased volume of credit extended by the institutions supervised by the Farm Credit Administration during the year ended June 30, 1948. Total loans to farmers and their cooperatives amounted to nearly \$1,800 million compared with \$1,500 million in the previous year. The 503 production credit associations made loans totaling about \$850,000,000. These associations are making continued progress toward complete farmer ownership, the capital stock owned by Farm Credit agencies now being less than 25 percent of their total net worth. The 12 Federal Land Banks and the localized National Farm Loan Associations are now completely farmer-owned and their loans closed during the fiscal year ended June 30, 1948, were approximately \$140,000,000. The 13 banks for cooperatives serving 1,559 farmer cooperatives with a membership of 2½ million made loans totaling about \$547,000,000.

In summary, 1948 was, on the whole, a satisfactory year for farmers' cooperatives, with prices and demand generally stable. Farmers' equities in their cooperatives at the end of 1947 were almost \$1,000 million and there was a substantial additional increase during 1948. These equities, though assuming importance in the list of farmers' total assets, are still only a fraction of the total investment in farms and production facilities. Members and management have increased confidence in the value and stability of agricultural cooperatives. At the same time they are aware of the problems that must be met to maintain and increase the services cooperatives can provide for farmers in the United States.

—HAROLD HENDRICKS

AGRICULTURAL ECONOMICS, Bureau of. A Bureau of the U.S. Department of Agriculture created in 1922 by the merger of two existing units. It is the central statistical and economic research agency of the Department. It acquires, analyzes, interprets, and distributes economic information relating to Agricultural production and distribution and to land utilization and conservation in its broadest aspects. It collects, compiles, analyzes, summarizes, and publishes extensive data relating to agriculture and foods. Chief: Otis V. Wells.

AGRICULTURAL RESEARCH ADMINISTRATION. The Agricultural Research Administration was established late in 1941 to direct and coordinate research in the U.S. Department of Agriculture. The Administration comprises seven research agencies, operates a 12,000-acre research center at Beltsville, Md., and coordinates all other Department research in the physical and biological sciences. Dr. P. V. Cardon is Research Administrator.

Many of the current projects are carried on under the Research and Marketing Act of 1946. Close cooperation is maintained with the State agricultural experiment stations and other research organizations. Brief statements on the functions of the agencies comprising the Administration and a few examples of the past year's research results follow.

Bureau of Agricultural and Industrial Chemistry. The work of this bureau is directed toward finding new and wider industrial and food uses for farm products. It operates four large regional research laboratories and 12 field stations located throughout the United States. Each of the four laboratories works on selected products of particular importance in its region. The Northern Regional Research Laboratory, at Peoria, Ill., deals with corn, wheat, and other cereal crops, soybeans and other oilseeds, and ag-

ricultural residues, such as corn cobs, straws, and hulls; it works for the improvement of fermentation processes and products and maintains one of the largest collections of molds and other micro-organisms in the United States.

The Southern Laboratory, New Orleans, La., concentrates on cotton, peanuts, sweet potatoes, and rice. At the Eastern Laboratory, Philadelphia, Pa., tobacco, apples, potatoes, leafy vegetables, milk products, hides and skins, tanning materials, animal fats and oils, and honey and maple products are the chief commodities under consideration.

The Western Laboratory, located at Albany, near San Francisco, Calif., conducts research mainly on fruits, vegetables, wheat protein, alfalfa, poultry products, wool, and dried beans and peas. In other research divisions the problems considered relate to processing and utilizing the products and by-products of pine gum, tung nuts, sugar plants, and citrus and other fruits; the preservation of vegetables by brining or fermentation; the extraction and processing of rubber from guayule plants; and the production of liquid motor fuels from crop wastes. Fundamental research is conducted on the chemistry and immunology of allergens existing in agricultural products, biologically active chemical compounds, the nature and control of enzyme action, substances with possible medicinal uses, and micro-organisms in processed foods.

During the past year, processes were perfected at the Northern Laboratory for making two types of useful products from wheat straw, nearly half the 95 million tons of which produced annually in the United States is now wasted. Fine paper of the better grades and insulating building-board can both be made commercially from wheat straw by the new processes. For the papers, the straw would be combined with wood pulp.

Leaf meals of high protein and vitamin A value were prepared from field and packing-house wastes of beets, broccoli, carrots, and other vegetables at the Eastern Laboratory. Poultry-feeding tests were of value. An improved process for extracting an oil suitable for salad and cooking from the seed-coating and germ removed from rice in milling was developed at the Southern Laboratory. It is estimated that 20 million lb. of such oil might be recovered as a by-product of the United States rice crop each year.

The synthetic-liquid fuels project reached the stage of converting corn cobs into motor fuel. Blends of 5 parts regular gasoline and 1 part corn-cob alcohol performed in a high-compression motor as well as 90-octane gasoline.

A promising new antibiotic named subtilin was discovered at the Western Regional Laboratory. It was found to be effective in culture against micro-organisms that cause tuberculosis, bovine mastitis, and several other serious animal and human diseases.

Bureau of Animal Industry. This bureau's functions relate to the breeding, feeding, and management of domestic animals, poultry, and fur-bearing animals raised in captivity; control of animal diseases and parasites; improvement of animal products; and the enforcement of livestock laws and regulations, including quarantines, meat inspection, and inspection of other animal products. Many of the bureau's activities are in cooperation with State and other agencies.

Cooperation with Mexico was continued in the effort to suppress an outbreak of foot-and-mouth disease that began in that country in 1946. The original plan to attempt eradication of the disease by slaughtering all affected and exposed animals

was modified. The goal of the less drastic program is prevention of the spread of the disease, especially of its introduction into the United States, gradual reduction of the infected area, and eventual complete eradication.

More purebred animals were certified for entry into the country for breeding purposes during the fiscal year 1948 than in any previous comparable period. Such animals are admitted free of duty except from countries where certain animal diseases are present and from which importations are restricted.

More than a million calves were vaccinated in a campaign to eradicate brucellosis. It was shown that spraying anemic cattle infested with lice with DDT cured the anemia.

Crossbred pullets of Rhode Island Red and White Leghorn breeds produced more eggs than those of either parent breed, in investigations at Beltsville, Md. Benzene hexachloride proved to be effective in treating sheep for scabies.

Bureau of Dairy Industry. The principal functions of this bureau are breeding and feeding dairy cattle for the highest possible production of milk and butterfat, and improving dairy products and by-products. Results continued to be favorable in the cross-breeding experiment with various breeds of dairy cattle. Cows with the mixed blood of three breeds produced more butterfat on an average than their two-breed dams. A requirement for such improvement is the use of sires proved to pass on high milk and fat producing ability to their daughters, regardless of breed.

Feeding tests showed that dairy cows can maintain satisfactory growth and milk production on a ration containing less protein than formerly recommended.

Penicillin was found to control mastitis in 88 percent of affected cows treated in the bureau herd. It appeared that the organism believed chiefly responsible for the disease is less prevalent as a cause than some related forms.

Experiments to determine the effects of thyroprotein when fed to dairy cows to stimulate milk secretion show that feeding the drug increases milk production temporarily if extra feed is given, but that the increase in milk yield is accompanied by accelerated heart action and respiratory activity. The use of thyroprotein by dairy farmers is not recommended. Fortifying milk with vitamin C (ascorbic acid) was found to prolong the keeping quality of milk in frozen storage.

Bureau of Entomology and Plant Quarantine. The search for more effective materials and methods for controlling insect pests, the study of beneficial insects such as bees, and the enforcement of quarantines to prevent the spread of insects and plant diseases are the main functions of this bureau.

Among new insecticidal materials under test are chlordane, chlorinated camphene, and parathion. Each of these promises to be effective against certain insects, in some cases more effective even than DDT. Parathion is especially promising as a killer of certain fruit insects, adult and larval mosquitoes, and adult houseflies. This chemical is highly toxic to man, however, and its general use cannot be recommended at present.

It was shown in both laboratory and field tests that corn growing in soil treated with parathion absorbed enough of the chemical to kill larvae of the European corn-borer feeding on it. A method for detecting the amount of weevil infestation in stored wheat and other grains was developed. Grain samples soaked for 10 minutes in a dye solution containing acid fuchsin and then washed

retain cherry-red dots in kernels where weevil eggs have been deposited. The dots are easily seen and make it easy to calculate the percentage of infestation in the grain.

It was demonstrated that a leaf-hopper transmits the *phloem necrosis* disease of elms, which has destroyed thousands of trees, especially in the Middle West. Control of the disease is now possible through control of the insect carrier.

An automatically operated multiple aerosol spray for clearing airplanes of insects was designed and demonstrated. One switch releases an aerosol through a number of nozzles placed throughout the plane. Such protection is important to prevent the introduction of insects into new territory by means of air transportation.

Bureau of Human Nutrition and Home Economics. This bureau completed 25 years of service to homemakers in 1948. Its functions are the determination of basic human needs for food and other essentials, studies of the nutritional value of foods and of the nature of other products serving human needs, and the finding of more scientific and efficient ways for homemakers to perform their tasks.

A study of the effects of various methods of home-cooking on nutrients in foods was completed and a report issued. The research dealt with 20 vegetables, meats, cereals, and breads. Their vitamin and mineral content was analyzed before and after cooking in two or more ways. Green peas, carrots, and potatoes were studied even more intensively. It was found that vitamin C and thiamine are lost more readily in all methods of cooking than the other vitamins and the minerals. Potatoes boiled whole in their skins retain more vitamin C than when cooked in any other way.

A model U-shaped kitchen was built and exhibited. Plans for building it were made available through the States. Working drawings for a series of easy-to-build kitchen cabinets were also made available. The kitchen was planned on the basis of research findings. Its U-shaped design saves steps and stooping and reaching are reduced to a minimum by the arrangement of cupboards and the establishment of work centers for the various kitchen tasks. Revolving shelves at the corners of the cabinets are a feature.

A report on *How Families Use Their Incomes* was published. It summarizes the findings of a study of the kinds and amounts of goods and services required by families in the United States, both rural and urban. The report is intended especially for use by teachers, social workers, and others who work with families.

Bureau of Plant Industry, Soils, and Agricultural Engineering. Plant breeding, control of plant diseases, the study of soils, the influence of fertilizers on plant growth, farm machinery and buildings are the fields of this bureau's work. Many of the projects are carried on in cooperation with State agricultural experiment stations.

In plant breeding, seven new corn hybrids, new wheat varieties resistant to a number of diseases, a new long-staple cotton, and new varieties of sugarcane and sugar beets were released. New Burley tobacco varieties were developed that increase the percentage of cigarette leaf without reducing yields.

Cauliflower treated with a hormone spray two weeks before harvest kept fresh longer. Easter lilies stored at 28° to 31° F. produced more buds than bulbs of similar size stored at 32° to 35°. The Scarlet Runner bean was found to be resistant to two serious bean diseases. Cracking of sweet potatoes was found to be caused by nematodes in the

soil rather than by any disease of the plant itself.

In the Columbia River basin, where irrigation has been recently introduced, yields of corn were experimentally increased from 20 bushels to 176 bushels to the acre by closer spacing and the use of fertilizer.

Bureau engineers improved equipment for harvesting and drying ramie and kenaf fiber; improved methods for drying peanuts; designed a tobacco-curing barn that requires less fuel; devised a new type of cleaner for removing fine trash from cotton lint in ginning cotton; and developed a method for artificially drying ear corn in farm cribs that saves its own cost.

The Office of Experiment Stations. This office administers Federal grants to the State, Hawaii, and Puerto Rico Agricultural Experiment Stations. These funds totaled \$9,575,808 in the fiscal year 1948. The stations received from State legislatures about four times that amount for research. Over 4,000 lines of research were active under Federal grants, approximately 4,700 under non-Federal funds.

The office assisted in coordinating the research program of the United States Department of Agriculture with those of the State stations under 1,400 formal memoranda of understanding and took an active part in planning and coordinating cooperative regional research among the stations.

--E. C. MOORE

AGRICULTURE. Total farm production on United States farms in 1948, as measured by the U.S. Department of Agriculture in terms of output for human use, was about 37 percent above the prewar (1935-39) level. It was consequently an all-time record. Corresponding figures for recent years were: 30 percent above prewar in 1944; 29 percent above in 1945; 34 percent above in 1946; and 29 percent above in 1947. The increase over prewar years, though less than that of urban industry, was noteworthy from several standpoints. In the first place it was without historic parallel. Secondly, it mainly reflected steady improvement in farm technology, plus renewed favorable weather.

Crop land used was only about the same as in the 1930's, while the farm labor force was smaller though up from the low point to which it fell in the war years. Agricultural production as a whole usually increases only very slowly from year to year, partly because of its dependence on relatively changeless factors such as land, topography, and climate. Our farmers boosted their output by more than one-third within a decade by means principally of machinery, along with better plants and animals, revolutionary new insecticides and other pest controls, and a record fertilizer use. In food production as distinguished from total farm output for human use, the 1948 increase over the prewar average was 32 percent.

Record Crop Production. Aggregate crop production in 1948, as estimated in December, was the largest on record by a wide margin. Feed-grain production, dominated by a record corn crop, was a new high. Output of food grains was the second largest on record. Oilseed production topped any previous tonnage. There was large production of vegetables and of special crops. Fruit production was only slightly below average. Livestock products continued their downward trend, as a result of the relatively small production of feed grains in 1947. But this trend is likely to be reversed in 1949, because of the huge 1948 outturn of feed crops.

Combined production of all principal crops in 1948, based on preliminary estimates, was 37 per-

cent above the 1923-32 predrought average. It was 11 index points above the previous high mark set in 1946. Contributing to this achievement were record outputs of corn, rice, soybeans, peanuts, and pecans; near-record outturns of wheat, oats, flaxseed sorghum, grain, dry beans, and citrus fruits; a cotton crop one-fourth above the average; and above average crops of barley, all hay, potatoes, tobacco, sugarcane, sugar beets, hops, peaches, grapes, cherries, apricots, and truck crops. Among the major crops, only rye, buckwheat, dry peas, sweetpotatoes, broomcorn, apples, and pears were below average.

CROP PRODUCTION: ANNUAL SUMMARY, 1948

Crop	Unit	Production (in thousands)		
		Average 1937-46	1947	1948
Corn, all	Bu.	2,813,529	2,383,970	3,650,548
Wheat, all	Bu.	942,623	1,367,186	1,288,406
Winter	Bu.	688,606	1,068,048	990,098
All spring	Bu.	254,017	299,138	298,308
Durum	Bu.	34,619	44,328	44,742
Other spring	Bu.	219,398	254,810	253,566
Oats	Bu.	1,231,814	1,199,422	1,491,752
Barley	Bu.	298,811	281,185	317,037
Rye	Bu.	37,398	25,975	26,388
Buckwheat	Bu.	7,022	7,334	6,324
Flaxseed	Bu.	26,756	40,536	52,533
Rice	Bu.	60,460	78,259	81,170
Popcorn	Lb.	170,810	102,325	293,160
Sorghums grain	Bu.	99,791	96,016	131,644
Sorghums forage	Tons ^a	11,975	6,078	7,616
Sorghums silage	Tons ^b	4,969	3,448	4,549
Cotton, lint	Bales	12,014	11,857	14,937
Cottonseed	Tons	4,947	4,681	6,036
Hay, all	Tons	97,563	102,765	99,846
Hay, wild	Tons	11,437	13,479	12,848
Alfalfa seed	Bu.	1,260	1,700	990
Red clover seed	Bu.	1,578	1,262	1,774
Alfalfa	Bu.	325	375	388
Red clover	Bu.	853	574	533
Lucerne seed	Lb.	167,895	149,760	241,560
Lucerne	Bu.	1,525	1,589	424
Sudan grass seed	Lb.	49,763	21,540	23,800
Beans (dry edible)	Bags ^c	16,716	17,218	20,833
Peas (dry field)	Bags ^c	5,278	6,513	3,584
Soybeans	Bu.	134,642	183,558	220,201
Cowpeas	Bu.	5,854	3,466	3,416
Peanut	Lb.	1,750,704	2,182,895	2,268,110
Velvet	Tons	763	407	350
Potatoes	Bu.	392,143	389,048	445,850
Sweetpotatoes	Bu.	64,806	55,746	49,806
Tobacco	Lb.	1,664,265	2,109,581	1,897,926
Sorgo sirup	Gal.	11,437	9,845	7,625
Sugarcane (sugar and seed)	Tons	6,060	5,297	6,309
Sugarcane sirup	Gal.	21,113	20,270	13,790
Sugarbeets	Tons	9,771	12,504	9,418
Maple sugar	Lb.	508	305	229
Maple sirup	Gal.	2,273	2,039	1,445
Broomcorn	Tons	43	34	30
Hops	Lb.	43,532	50,098	49,819
Apples	Bu.	115,058	113,041	90,288
Peaches	Bu.	66,725	82,270	65,749
Pears	Bu.	30,222	35,812	26,399
Grapes	Tons	2,705	3,024	2,998
Cherries (12 States)	Tons	170	173	217
Apricots (3 States)	Tons	240	202	250
Plums (2 States)	Tons	79	78	70
Prunes, dried (3 States)	Tons	207	198	171
Prunes, others (3 States)	Tons	119	94	123
Oranges (5 States)	Boxes	93,087	114,380	118,900
Grapefruit (4 States)	Boxes	47,473	61,630	56,250
Lemons (Calif.)	Boxes	12,808	12,870	13,100
Cantaloupes (5 States)	Bbl.	674	790	922
Pineapples	Lb.	109,476	118,639	153,812
Tung nuts (5 States)	Tons	21	53	67

^a Dry weight. ^b Green weight. ^c Bags of 100 lb., uncleaned.
^d All purposes. ^e Short-time average.

Feed supplies per animal unit became the most liberal in history, though carry-over stocks were relatively small. With livestock numbers the smallest in 10 years, the total supply of corn, oats, barley, and sorghum grain rose to near-record size. Hay was in ample supply, with a large carry-over and an above-average crop, but with the possibility

of some shortages in the East North Central dairy section, and dry range areas.

Production of food grains was exceptionally large as a result of a record rice crop and a wheat crop second only to that of 1947. The winter wheat crop totaled nearly 1,000 million bu.; the spring wheat crop for the first time since 1944, exceeded 300 million bu. With a larger carry-over than in the two preceding seasons, the supply provided an ample quantity of wheat for domestic use and as much for export as in either of the previous 2 years. Rye and buckwheat, however, were relatively small crops.

In the year's oilseed production, soybeans and peanuts reached new peaks; flaxseed production was the second largest on record, and cottonseed production was one-fourth above average. In cotton's long history in this country, only six crops of cotton lint have been larger. The yield of cotton per acre was a record, on an acreage slightly above average.

The Crop Reporting Board of the Bureau of Agricultural Economics supplied the figures in the following table on crop production, as of December, 1948, for the United States, from reports and data furnished by crop correspondents, field statisticians, and cooperating State agencies.

Livestock and Livestock Products. The production of livestock and livestock products in 1948 seemed likely to aggregate about 4 percent less than in 1947 and 12 percent less than in the peak year, 1943. Though smaller than in any year since 1941, it will be considerably larger than in any year up to and including 1941. The decline from the previous year was general in all categories—meat animals, wool mohair, dairy, and poultry products. The only item expected to show an increase for the full year was commercial broilers. The expected 1948 total of 41.2 million lb. liveweight of cattle, hogs, sheep, and poultry is about 2.4 million lb. less than that of 1947, but considerably more than in any year prior to 1942.

The number of hens on farms declined in 1948, continuing a downward trend from the 1944 peak. In the first 10 months of the year, egg production was 1 percent less than in the same portion of 1947, but for the year was likely to equal 1947. The number of layers in October was 2 percent less than in 1947, but the rate of lay was at a record level. Total milk production in 1948 fell off about 3 percent from the 1947 total and was about 4 percent below the record 1945 total. Only in the 4 years 1944-47 has the 1948 production been exceeded. Milk flow per cow was at record or near-record levels during the first 10 months of 1948, but at midyear the number of milk cows was 4 percent below a year earlier.

High Domestic Demand. Consumption of agricultural commodities in the United States in 1948 was at a near-record level. Consumption of food on a per capita basis, though slightly lower than in 1947, was 12 percent above prewar and was distributed by economic groups with less unevenness than in prewar years. Civilians consumed a larger proportion of the food supply than in any year since 1941. Shipments out of the country, for United States military uses, U.S. Territories and exports, took only 8 percent. Greater than in 1947 in cotton and dried fruits, the overseas shipments were about the same as in that year in wheat and in fats and oils; smaller in dairy products, fresh fruits, tobacco, eggs, and meats. Though huge by comparison with the exports of the interwar years, the shipments this year came out of the wartime and postwar gain in this country's farm production. Consequently

they involved no hardship to domestic consumers. As indicated, the domestic consumption was exceptionally high.

Consumer Incomes and Food Buying. Consumer incomes continued to increase in 1948 and so did consumer's food expenditures. With salaries, wages, profits, and farm incomes at record peacetime highs, United States consumers spent more money than ever before. During 1947 and the first half of 1948 consumers spent, on the average, 28 percent of their disposable income for food, compared with 23 percent in the prewar period of 1935-39. The actual per capita annual rate of expenditure for food in the second quarter of 1948 was 5 percent more than in 1947 and approximately 3 times that of the prewar period. Per capita disposable income for the same period was about $2\frac{1}{2}$ times the 1935-39 average.

Total utilization or disappearance of food produced in or imported into the United States was slightly smaller in 1948 than in the preceding 4 years, but almost a third higher than in 1935-39. A significant shift in utilization, compared with the war years, began in 1946. Sharp reductions in military takings permitted continued high civilian consumption and large exports to meet both rehabilitation and relief needs abroad.

The nutritive quality of the civilian per capita food supply was considerably better during World War II than in the years 1935-39, and the improvement continued into the postwar period. Significant increases in the daily supplies of minerals and vitamins principally reflected enrichment of cereal products and greater consumption of meat, fluid milk, citrus fruit, and leafy, green, and yellow vegetables.

Foreign Market Somewhat Unfavorable. Foreign demand outlook included important unfavorable elements, notably the shortage of dollars in Europe and throughout the world. This was more important than the year's recovery in world production. Our total exports from fields and factories in 1946-47 amounted to \$12,750 million; exports were above imports in value by about \$7,350 million. The excess of exports over imports was about the same in 1947-48. In order to pay for the difference our customers abroad drew on their credits here, liquidated some of their capital assets in the United States and elsewhere, shipped gold, and relied on loans and grants such as the British loan and what was left of UNRRA money. Such means for settling trade balances were likely to be scarce in 1948-49.

Hope for quick lessening of the dollar shortage was not high on the basis of ERP commitments; the first annual appropriation was only \$5,000 million. Still less favorable was the prospect for recovery in world-earning of dollars. Many authorities were profoundly pessimistic as to Europe's early ability to pay for goods with goods. Farm exports from the United States could evidently decline, with bad effects on the domestic price position. World food need was sure to continue in 1949 and afterward, despite recovery in world agriculture; but economists reminded farmers and others that in world trade it is money rather than need that counts. Worthwhile money is the world's scarcest commodity.

High Food-Grain Exports May Continue. Nevertheless, high authority gave hope for maintenance of our bread-grain exports. D. A. Fitzgerald, director of the Food and Agriculture Division of the Economic Recovery Administration, said western Europe would have to import as much food grain in 1948-49 as it did in 1947-48. Most European countries

in 1948 still had a bread ration. They wanted to increase it; and they placed this desire near the top of their priority for dollars. Our exports of wheat to all countries in 1947-48, with European countries the chief recipients, amounted to approximately 475 million bu. Mr. Fitzgerald expressed the opinion that the effective demand in 1948-49, or the requirement backed by loaned plus earned dollars, would not be much if any smaller. Bread-grain production in European ERP countries in 1948 was about 30 million metric tons, as compared with 21 million tons the previous year and 35 million tons on the average in the prewar years 1935-39. In this comparison the significant item was the 5 million ton deficit from the prewar level. With 25 million more people to feed in western Europe, continued bread-grain production below the 1935-39 level is continued tragedy.

Europe's Need Far from Met. This region was dependent on imports even in prewar years for about one-third of its food and it is now dependent on imports for a much larger proportion. With its farms below par from war damage and its farm machinery scanty and in disrepair, it has no possibility of becoming self-sufficient in food except through calamitous depopulation. Mr. Fitzgerald recognized the dollar obstacle to the satisfaction of Europe's food-grain need, and mentioned two additional qualifications of the prospect for United States food-grain exports; namely, the possibility of increased exports from the U.S.S.R. and the likelihood that increased supplies would be available also from Canada, Australia, and Argentina. Yet he looked for a good world demand for our food grains, along with an increased demand for coarse grains. He was not bullish with regard to exports of tobacco, meats, and dairy products, beans and peas, and one or two other products. Beyond 1949 the indicator for United States farm exports pointed downward in general, yet with fair prospects for cotton.

World Reports Raise Bread-grain Total. Reports in November to the U.S. Department of Agriculture warranted an upward revision in the estimate of the world's bread-grain crop. This revision placed the world's wheat crop at 6,285 million bu., about 35 million bu. more than the September forecast. At the revised figure the production would be a little larger than average and considerably above the small 1947 harvest. The rye production estimate of 1,625 million bu. was 20 million bu. above the previous forecast and about 10 percent larger than in 1947 though below average.

Chiefly responsible for the 35 million bu. increase in the estimated world wheat production were upward revisions for some European countries, notably France, and improved prospects for Australia. Australian harvest begins late in November and extends through January. Generally favorable prospects were reported for Australia, whose crop was forecast at about 185 million bu. This compared with the record crop for 1947 reported at 220 million bu. Better-than-average yields were in prospect. There was a reduction in the estimate for Turkey. The upward revision of 20 million bu. in the rye estimate was entirely in Europe.

Changes in North American estimates were minor; they included a slight increase in the 1948 Canadian wheat crop, counteracted in part by a small reduction in the estimate for the United States. The net increase for North America in wheat was a million bu., offset by a net reduction of a million bu. in the North American 1948 rye production. Hence the estimate for the total bread-grain crop remained virtually unchanged. Canada's

1947 wheat production estimate was revived downward by 4 million bu. in the latest official report.

Estimates for Europe increased by about 30 million bu. of wheat and 20 million bu. of rye, on the basis of the November information. Wheat production in Europe was placed at 1,465 million bu. and rye 660 million. An increase of 25 million bu. in the estimate for France was the only large revision in wheat. The increase for rye largely reflected optimistic reports on Poland, where yields were expected to approach the prewar level.

There were no reports in November as to changes in the estimated 1948 outturn for the Soviet Union, Africa, or South America. The latter continent's wheat harvest was beginning, and was estimated at 245 million bu. The forecast of 180 million bu. of wheat for Argentina was below average and was a sharp reduction from the 1947 outturn of 250 million bu. This estimate took into account damage recently reported from frosts.

Long-time Readjustments Necessary. Briefly, the year-end portents indicated world demand for important American farm products might shortly decline, with unavoidable bad effects on the domestic market. When export supplies back up into storage or into home trade channels, prices fall at home as well as abroad, even if domestic consumption and buying power remain high. This was the farmer's chief prewar problem, and 1948 saw it coming up again.

Momentum developed during the war years left agriculture geared high for the export trade; it had no facilities for quick curtailment. Hence the possibility of a drop in its world trade, with associated price recessions and pressure on Government price supports, was ground for some concern.

Officials of the U.S. Department of Agriculture pointed out that the United States contribution to Europe through ECA, though substantial and very important, should not be expected to serve as a complete offset to the bad effects of the dollar shortage. In other words, the ECA contribution was not a guaranty of increased or even of undiminished farm export trade. The implication was that agriculture should get ready for adjustments to long-time peace conditions.

Agricultural Exports in 1947-48. Exports accounted on a physical quantity basis for 13.8 of our food distribution in the fiscal year 1947-48; they included military shipments of food for relief feeding-programs in occupied areas. Civilians in the United States took 84.7 percent. Our military services took 1.1 percent for troops stationed at home and abroad; non-contiguous territories of the United States received 0.4 percent. Shipments overseas accounted for only small fractions of the meat supply and of the eggs. Exports took 0.7 percent of the meats; civilians in the United States consumed 96.9 percent; our military agencies took 2 percent; and 0.2 percent went to U.S. Territories.

The corresponding distribution of eggs was: exports, 4.4 percent; U.S. civilians, 94 percent; our military agencies, 1.4 percent; and U.S. Territories, 0.4 percent. Civilians in this country received about 90 percent of the cheese distributed, 80 percent of the condensed and the evaporated milk; 98 percent of the vegetables; and 90 percent of the fruits. Nevertheless, exports had economic importance out of proportion to their volume. They contributed to world healing and cleared markets that otherwise might have clogged.

Total food exports of 19,347,000 tons in 1947-48 were slightly larger on a tonnage basis than during the preceding fiscal year, and about 11 percent above the exports in the first postwar year, 1945-

46. Exports of cereal products, including rice, totaled 15.7 million tons, 0.5 million above 1946-47. This increase a little more than offset a small reduction from the level of the previous year in the exports of livestock products and other foods.

Grains, including rice, accounted for about 81 percent of the total export tonnage. Wheat and wheat products represented 67 percent; the other grains, 12 percent; and rice, 2 percent. These products were a larger proportion of the total exports than in the preceding two fiscal years. Grain shipments abroad in both 1946-47 and 1947-48 were restricted to food and seed uses.

Exports of wheat and wheat products amounted to 13,018,000 tons grain equivalent, or 486 million bu. and were the largest on record. They were almost 10 times the average annual exports for 1935-39. Exports accounted for almost half of the United States distribution of wheat for food in 1947-48.

Exports of corn and corn products amounted to a million tons (grain equivalent), only a third of the 1946-47 rate. They represented about 30 percent of the total distribution of corn for food. The outmovement of barley, malt grain sorghums, oats, oatmeal, rye and rye flour totaled 1,234,000 tons (grain equivalent)—slightly above the level of the 1946-47 fiscal year, but $\frac{3}{8}$ greater than in 1945-46 and about 4 times the average annual exports in 1935-39.

Exports in 1947-48 accounted for 54 percent of the total distribution of these grains for food. India and Pakistan received most of the grain sorghums. Rice exports at 407,000 tons (milled basis) slightly exceeded the record of 393,000 tons established in 1946-47. Exports of rice amounted to about 45 percent of the total 1947-48 United States rice distribution. They went principally to those areas where rice is an important food in the local diet—Cuba and the Far Eastern countries.

Exports of fats and oils at 251,000 tons were about 14 percent above those of the preceding fiscal year and almost 3 times the prewar (1935-39) average annual rate, but 19 percent below the 1945-46 level. An improvement in the domestic supply of vegetable oils permitted the increase.

The relatively small quantity of meat exported in 1947-48 reflected reduction in livestock marketings from the levels of the two preceding fiscal years, along with sustained heavy United States civilian demand. Meat exports of 68,000 tons (carcass equivalent) were only a third of the quantity shipped out of the United States in 1946-47; only one-tenth of the average 1945-46 exports.

Exports of cheese, canned milk, and dried milk in 1947-48 totaled 460,000 tons. This was more than 10 percent below the total of the previous fiscal year and 44 percent under the 1945-46 rate, but much above prewar exports. Exports of dairy products consisted mostly of canned milk and nonfat dry-milk solids. They accounted for 37 percent of the dried milk and 16 percent of the canned milk distributed. Nonfat dry-milk solids (dry skim milk) were given to school children in Germany and Japan under a school-lunch feeding program.

Aggregate exports of other foods—principally fruits, vegetables, potatoes, eggs, dry beans and peas, soybeans, and peanuts—amounted to 2,911,000 tons, and were less than in either of the two preceding fiscal years. Peanuts exported to Europe were crushed there for peanut oil. Exports represented almost 30 percent of the total United States distribution of dry beans and peas in 1947-48.

Chief Destinations of Farm Exports. Most of the exports of food from the United States in 1947-48

went to countries cooperating in the European Recovery Program. These European countries received a total of 12,557,000 tons or 65 percent of the total food exports from the United States. European countries not cooperating under this plan received 1.4 percent; Far Eastern countries, 16.4; Latin American Republics, 9.5; Canada, 4.1; and other areas, 3.6 percent.

The bizon or United States-United Kingdom area of Germany received more of the foods exported from the United States than any other country. Germany obtained the largest quantity of wheat (3,720,000 tons), other grains and grain products (514,000 tons), and other foods (661,000 tons). For fats and oils and also dairy products, this area ranked third highest with 35,000 and 44,000 tons, respectively. The dairy products were mainly nonfat dry-milk solids (dry skim milk). Relatively little meat and only a very minor quantity of rice were sent there.

The Far East area under United States military control (i.e., Japan, Korea, and the Ryukyu Islands) was the second largest recipient of United States food exports. The bulk of the receipts were wheat

Farmers' Prices and Earnings in 4th Historic Inflation. This country was in the fourth great inflationary period of the 150-year record of wholesale prices. War and heavy Government spending accompanied each of these peaks. During most of World War II, inflationary pressures were held in check by various control measures. In 1948, however, most prices rose to new record highs; declines in prices of farm crops were largely offset by rising prices of livestock. During both the world war periods, prices received by farmers went up faster and higher than did prices paid by them. In early 1948, average prices paid and also average prices received by farmers were at a new high. The ratio between the two reached a peak of 132 in October, 1946; after some decline, it stayed well over 100 in 1948. The prices of feed grains advanced sharply during 1947 and reached an all-time high early in 1948. Prices of oats and barley dropped sharply in the spring and summer of 1948 down to the Government price-support levels; prices of corn declined contrary to the usual seasonal trend. Because of record production, the prices of feed grains in 1948-49 averaged lower than in 1947-48;

SUMMARY OF FOOD EXPORTS FROM THE UNITED STATES BY MAJOR GROUPS, AVERAGE 1935-39
AND FISCAL YEARS 1945-48
(In long tons)

Period	Wheat and wheat products (in grain equiv.)	Other grains (grain equiv.)	Rice (milled)	Fats and oils	Meat (carcass equiv.)	Dairy products (product weight)	Other foods	Total food exports
1935-39.....	1,306,000	1,335,000	83,000	87,000	55,000	17,000	1,280,000	4,223,000
1945-46.....	10,504,000	1,306,000	352,000	310,000	614,000	816,000	3,596,000	17,498,000
1946-47.....	10,629,000	4,166,000	393,000	220,000	181,000	514,000	3,057,000	19,160,000
1947-48.....	13,018,000	2,232,000	407,000	251,000	68,000	460,000	2,911,000	19,347,000

and wheat flour (1,214,000 tons), other grains and grain products (382,000 tons), and other foods, most of which were soybeans (364,000 tons).

France and French North Africa received the third largest quantity of food exported by the United States in 1947-48—1,858,000 tons. This total consisted principally of wheat and wheat flour (1,605,000 tons) and other grains and grain products (141,000 tons). This area, with 37,000 tons, ranked second among the countries receiving fats and oils from the United States.

About 1,833,000 tons of food were shipped to the Latin American Republics. Exports of wheat and wheat products totaled 903,000 tons; other grains and grain products, 179,000 tons; rice, 246,000 tons; fats and oils, 66,000 tons; meat 10,000 tons; dairy products, 55,000 tons; and other foods, 374,000 tons. Most of the rice went to Cuba, a country which has always been a large market for rice produced in the United States.

Other areas which received large quantities of food from this country in 1947-48 were Italy (1,619,000 tons), Greece (775,000 tons), Austria (766,000 tons), and Netherlands (765,000 tons). All of these countries are participants in the European Recovery Program.

Belgium and Luxembourg, which also ranked high among the recipients of United States foods, obtained the largest quantity of dairy products—89,000 tons. The United Kingdom received only 363,000 tons of food, the smallest quantity since before World War II. In 1947-48 meat exports of 23,000 tons, approximately a third of the total exported, went to the United Kingdom of Great Britain and Northern Ireland.

The large volume of exports to Germany and the occupied area in the Far East was principally under the direction of United States military agencies.

they were unusually low in relation to prices of livestock and livestock products.

Net Farm Income Lower than in 1947. The Bureau of Agricultural Economics reported that the peak year in real income to farmers was 1946 and in net income 1947. In prices received the peak came in January, 1948. The parity-index, or the ratio of the prices received to the prices paid by farmers, reached its peak in August, 1948. It seemed in November, according to the BAE, that the net farm income of 1948 would be about 8 percent less than that of 1947, owing to an increase that took place in 1948 in the farmer's costs of production. Nevertheless, the drop in net farm income from the level of the previous year left the farmers in a very strong position. Their net income in 1947 was nearly double the peak reached in 1919 after the first world war. Moreover, fewer farm workers earned the 1948 net farm income—10 millions as compared with 11 millions in 1919.

In both these postwar peak years the net earnings of farm workers averaged nearly as much as those of industrial workers. Specifically, the net income per person engaged in farming in 1948 averaged \$2,050 as compared with the industrial worker's average of \$2,500. In 1919 the farm net-income average was \$969—the factory worker's \$1,188. These comparisons imply a substantial advantage on the farm side, because net income on the farm goes further than in the city and farm life includes other values. It should be noted, however, that the comparisons take the *whole* net income of agriculture but only the wage-earner's portion of the factory income. Hence the resemblance is accidental or arbitrary rather than truly significant.

Cash from Marketings. Cash receipts from marketings came close to the 1947 total of 40,000 million dollars, with gross farm income about the same as in the previous year. Payments by the Government to farmers totaled some \$300 million as com-

pared with \$342 million in 1942. Value of farm products used in farm homes increased; but so did the expenses of farm production. Allowance for the rise in costs indicated the net income of farmers, or what they had left after paying production expenses, interest, and taxes, would be around \$17,000 million as compared with \$18,000 million in 1947.

Costs in Farming. Farmers' expenses of production averaged 5 percent or more above 1947, with hired labor, operation of motor vehicles, fertilizer, and maintenance and depreciation of buildings and equipment showing the greatest rise. Farm wage increases added substantially to farmers' cash costs. The rates were about four times prewar compared with a threefold increase in net farm income. Nevertheless, the wages of hired farm labor did not hold their own with increases in rural living costs. In other words, real farm wage rates declined.

There were more motor vehicles on farms; and repairs, parts, and fuel for these vehicles were more expensive. Maintenance of buildings and equipment was more expensive. Payments by farmers for taxes and farm mortgage interest were higher than in 1947. Taxes reflected rising costs of local Government; mortgages reflected higher interest rates and rising farm land values.

Outlay for fertilizer was greater than in 1947, at slightly higher prices. This reflected continued optimism about agricultural prices. Fertilizer applied at high rates was profitable on innumerable farms. The cost of fertilizer is rather stable. Fertilizer prices have risen less since the prewar period than most other prices paid by farmers. Fertilizer prices may decline less in the event of a recession. Farmers may reduce the quantities used, but will tend to maintain much of the recent increase.

Technology Lowers Unit Costs—Boosts Cash Costs. Better technology lowered total unit costs of farm production, but increased the farmers' cash costs, and resulted in more farm specialization. Gasoline, tractors, combines, and other necessary equipment added to cash costs. Moreover, the wheat farmer bought bread and the dairy farmer bought butter and cheese. In short agriculture continued to move away from farm self-sufficiency. Technical progress varied greatly among farms; many farmers on farms too small for machinery were not prosperous and could not keep step with changing markets and methods. According to the census in 1945, the upper third of the farms in the United States produced 80 percent of the total value; the lower third only 4 percent. In 1940, the upper third produced 78 percent of the total value; the lower third 5 percent. Large numbers of relatively unproductive farmers on small, hilly, or otherwise unsuitable land eked out a scanty farm income with earnings from non-farm work.

The Costs of Agricultural Marketing. The retail value of farm food products increased to around \$37,000 million in 1948, but farmers received little, if any, more than in 1947. The nation's bill for marketing farm food products was \$15,500 million in 1947; it totaled about \$17,500 million in 1948. Farmers received \$19,400 million out of the retail value of \$34,900 million in 1947.

The greater instability of farm prices in the market place as compared with wages and non-farm prices showed up in the farmer's share of the consumer's food dollar. As usual, this share varied with farm prices, in part because inflexible items were a large portion in distribution costs. It also varied widely among different commodities. About 32¢ in 1932 and 54¢ in 1945, it had fallen in early 1948 back to the level of early war years.

An important factor in the nation's marketing bill was direct labor costs, which normally make up about half of the total food-marketing costs. Marketing charges in 1947 were almost 50 percent more than in the prewar period 1935-39. Hourly earnings in 1947 were about double the 1935-39 average. However, an increase in labor productivity per man hour and a decrease in marketing services held the labor cost per unit of food marketed down to 78 percent above the prewar period. Hourly earnings in the food marketing services in 1948 were higher than those of 1947.

Agriculture's Assets. Farmers' assets in 1948 were about double those of 1941, doubled chiefly because of higher prices. Their physical plant was much higher in value than before the war, though heavy production had depleted or endangered soil resources. Equipment had been increased, but much of it was badly worn, and buildings needed repairs. But debts have been reduced and liquid assets tripled. Farmers were in a position to rebuild their physical plants, protect the soil, and weather any moderate financial storm. Farm land values continued to increase.

Higher prices, higher incomes, higher rents, more cash on hand, and a decrease in notes in the bank were powerful causes. Land was not as much above prewar as rents, prices, or income; nevertheless, farm land values set new high records. Values on July 1, 1948, in the United States as a whole were 109 percent above the 1935-39 average, and 2 percent above the peak reached in 1920. Until 1947 land values in the Great Plains and the Midwest increased less relative to farm incomes than in the rest of the country. In 1948 these regions were mainly responsible for the increase in the national farm land-value average.

Farm Family Spending. The Department of Agriculture reported changes in farm family spending, deduced partly from reports on the accounts that farm families keep and send to the State Colleges of Agriculture. Reports from Iowa, Illinois, Kansas, and Minnesota, and other States furnished data over an 11-year period. Comparable data for urban family spending were not available. Possibly data from these account-keeping farm families would differ from an average for all farm families. Account-keeping farm families are the more prosperous ones. Nevertheless, the farm family accounts gave the best picture available. These account-keeping farm families generally spent less money for various consumer goods than the per capita average for all consumers in the country. They got some food and fuel from the farm; moreover, many carried part of their housing expenses as a business cost. Also, many often could buy farm products cheaply from neighbors. True, the farm families had on the average less to spend, at least in the 1930's and early 1940's, than city families.

Spending by these account-keeping farm families for consumer goods more than doubled from 1940 to 1947. Significantly, the spending increased more than prices of consumer goods. Farm families greatly stepped up their spending for clothing. They spent one-fifth more for new clothing in 1947 than in 1946. Their expenditures for medical care increased. In 1947 these yardstick families paid two and one-half times their 1940 figure for medical care. Farm families also modernized their homes and bought household equipment. They put a large share of their additional family-living funds into furnishings and household equipment. On the average, they spent \$500 more for family living in 1947 than in 1946, with nearly a third of the additional sum going into furnishings and equipment.

Electrification Boosts Farm Spending. Extension of electricity to rural areas stimulated many farm families to modernize their houses and to buy household equipment. The Rural Electrification Administration reported that, in 1947, 61 percent of all farms were receiving service, compared with 11 percent in 1935. Many farms remained without electricity, especially in sparsely settled States such as the Dakotas, Nebraska, Montana, and in some Southern States. Funds are available for new loans to extend the program, but materials are still scarce. From 1940 to 1947 the number of farmhouses with modern bathrooms nearly doubled, and more than a million were supplied with running water. However, as of April, 1947, two-thirds of the farmhouses still had no running water; four-fifths were without modern bathrooms.

Livestock Numbers as of Jan. 1, 1948. Each year the crop reporting board of the Bureau of Agricultural Economics reports on the numbers and value of livestock and poultry on farms (including ranches) as of January 1 for the United States. It uses information furnished direct by livestock and poultry producers, reports collected with the assistance of the Post Office Department through the rural mail carriers, and data assembled by field statisticians and cooperating State agencies. Livestock and poultry *not* on farms are not included.

In its report for Jan. 1, 1948, the crop reporting board said the number of livestock on farms and ranches declined during 1947 to the lowest level since 1939. Numbers had dropped 4 years in succession since the peak of Jan. 1, 1944. The decline during 1947 was somewhat larger than in 1945 and 1946 but less than in 1944. For the second year consecutive numbers of each species of livestock and of chickens and turkeys were lower at the end than at the beginning of the year.

The decline in livestock and poultry numbers resulted from various causes. High prices for meat animals encouraged heavy slaughter. Reduced feed supplies in the last half of the year, accompanied by high feed prices, curtailed livestock feeding operations and prompted increased marketing and closer culling of flocks and breeding herds. A decline in workstock represented further mechanization. Comparatively low prices for workstock offered little incentive to check the downward trend.

Cattle and Hogs. Cattle numbers in the United States were in their fourth year of decline since the peak number of 85.6 million on Jan. 1, 1945. In previous cycles practically all the decline was in cattle other than milk cows. Milk cows accounted for a substantial part of the reduction during 1948. Important in the total decline was the fact that cows, heifers, and steers were sold for slaughter and not replaced from the large calf crops. A high percentage of calves raised have recently been slaughtered in their first year.

Hog production remained far below the 1943 peak made possible by large carry-overs of corn. Production in 1948 was about as large as was possible in view of the small 1947 corn crop; corn supplies were fed down to unusually low levels at the end of the 1947-48 feeding year. Banner production of corn in 1948, along with hog-corn price ratios that rapidly became more favorable to hog producers, probably will result in an increase in the production of hogs ahead of other meat animals. A substantially larger pig crop in the spring of 1949 than a year before would provide more pork for the late fall. Numbers of sheep continued to decline, though at a slower rate than in recent years.

Livestock (excluding poultry) numbers on Jan.

1, 1948, were 4 percent below a year earlier and about 16 percent below the record high numbers of Jan. 1, 1944. In terms of feed-grain consuming units, numbers were down 3.9 percent; including chickens, they were down 3.7 percent. In terms of roughage and pasture units, the total was down 4.1 percent.

Farm Value of Livestock. Nevertheless, the farm value of livestock and poultry on Jan. 1, 1948, hit a record high of \$13.451 billion—12 percent above 1947 and 90 percent above the 1937-46 average. Values per head of cattle, hogs, sheep, chickens, and turkeys were the highest on record. Values per head were lower than in 1947 for horses and mules. Stocks of feed grains on farms on Jan. 1, 1948, were down more than livestock numbers. The supply was well below the average for the preceding 10 years, though somewhat better than on Jan. 1, 1944, when livestock numbers were at an all-time peak. The supply per unit of livestock was about 23 percent below that of Jan. 1, 1947, and 13 percent below the 1938-47 average.

Decrease in Livestock. The decrease in cattle numbers during 1947 amounted to 2,643,000 head and was one of the largest on record. It resulted from a record slaughter of cattle and calves, accompanied by reduced imports of cattle from Mexico. A bet-

SUMMARY OF LIVESTOCK CENSUS JAN. 1, 1948.

Class of Livestock*	Number on farms (1,000 head)		Farm value per head (in U.S. dollars)		
	1947	1948	Average 1937-46	1947	1948
Cattle	81,207	78,504	52.90	97.30	110.00
Milk cows	26,098	25,105	77.00	145.00	164.00
Hogs	56,921	55,038	15.10	36.00	42.80
All sheep	37,818	35,332			
Stock sheep	32,125	30,544	7.60	12.20	15.00
Horses	7,249	6,607	76.50	59.20	55.50
Mules	2,772	2,514	124.00	141.00	133.00
Chickens	474,441	462,976	.89	1.44	1.44
Turkeys	6,650	4,507	3.59	6.47	6.88

TOTAL FARM VALUE (in \$1,000)

Class of Livestock*	Average 1937-46		1947	1948
	1937-46			
Cattle	4,069,263		7,907,198	9,160,013
Milk cows	2,026,241		3,787,080	4,126,161
Hogs	926,746		2,019,066	2,355,069
All sheep	387,236		477,206	542,321
Stock sheep	337,742		393,440	457,510
Horses	707,801		428,798	306,480
Mules	467,781		389,776	337,901
Chickens	435,178		682,486	607,507
Turkeys	20,204		43,016	30,980
Aggregate 5 species*	6,018,827		11,252,134	12,762,324
Aggregate 7 species*	7,080,209		11,977,630	13,450,910

* For more specific description, see tables by States in USDA report "Livestock on Farms, Jan. 1, 1948." † Includes horses, mules, cattle, all sheep, and hogs. ‡ Includes horses, mules, cattle, all sheep, hogs, chickens, and turkeys.

ter-than-average calf crop in 1947 was a partial offset to the heavy slaughter. The downward phase of the cattle numbers cycle started in 1945. It indicated a consistent and large decline in milk cows and a rather irregular and smaller decline in other cows. Over half of the decrease in all cattle in 1947 was in cows.

Hog numbers, down 3 percent from Jan. 2, 1947, were the lowest since 1941, as a result of heavy marketings of hogs during the last quarter of 1947 which more than offset the increase in the 1947 pig crop. All of the decrease was in the number of hogs over 6 months old.

The number of horses and mules declined sharply, though the decrease in numbers was less than in 1946 or 1945. The downward trend began in 1915 for horses and in 1925 for mules. In 1947

there was a record slaughter, along with the smallest crop of both horse and mule colts on record. Exports, however, were below the shipments in 1946.

Chickens on farms on Jan. 1, 1948, were down 2 percent in number from 1947 to the lowest level since 1941. Pullets were about the same, the decrease being in hens and other chickens. A drastic reduction of 32 percent was recorded for turkeys. This brought the January 1 inventory to the smallest number of record in 1929. Turkey breeder hens were likewise the fewest of record.

Liquidation of sheep numbers continued but the rate of decline during 1947 was less than in any year since 1942. Stock sheep for 1948 were the fewest since records began in 1867. Sheep and lambs on feed showed a 16 percent decrease from a year earlier, but were numerous in relation to the number of stock sheep. The decline in stock sheep was relatively greater for farm flocks than range flocks. There was a further drop in the number of farms keeping sheep. Several Western sheep States showed fairly marked increases in the number of ewe lambs, an indication that the downward trend was being checked in these States.

Meat Production and Consumption. Production of meat in 1948 was down about 9 percent from 1947. Output of pork declined least; the spring pig crop was only 3 percent smaller than the 1947 spring pig crop, despite sharply reduced corn supplies. Production of beef fell short of the 1947 level, which had been increased by rather sharp liquidation of herds. Further reduction in numbers of cattle probably occurred in 1948 also, and the slaughter contributed to the supply of beef for the year.

Production of lamb and mutton continued the fast decline that began in 1944. Production of meat may be about the same in 1949 as in 1948, especially if cattle slaughter is reduced enough to stabilize cattle numbers. Production of pork probably will increase, with additional supplies coming in the fall as hogs from the spring pig crop are slaughtered. Prospects are that output of lamb and mutton will decline again.

About ten years ago consumption of meat per person in the United States began to rise after having declined steadily since the beginning of the century. The new uptrend was stimulated by improving consumer incomes, and made possible by higher yields of feed grains and reduction in the quantities of feed needed for workstock. Early in this century, consumption of pork and of beef was nearly equal, but in later years more pork than beef was consumed.

This change resulted partly from a decline in meat exports, which transferred more pork than beef from foreign to domestic consumers. Pork exports remained substantially larger than beef exports, until both became small in the last few years. A record 155 lb. of meat was consumed per person in 1947, when reduction of cattle herds sent more animals to slaughter and added to meat supplies. With fewer cattle on hand and a short 1947 corn crop cutting down meat production, consumption dropped to 144 lb. in 1948. It may remain at approximately 1948 level in 1949; increased pork will about offset reduction in beef, lamb, and mutton.

Dairy Conditions Favorable. Output of milk per cow continued its upward trend, in reflection of heavy culling of low producers and relatively high feeding rates. Further decline in numbers of cows during 1948 resulted from below average dairy-product feed-price relationships, high slaughter

values for dairy animals, and relatively favorable alternative farming opportunities. Numbers of young stock were at record levels relative to milk cows. Dairy-product feed-price relationships seemed likely to be above average throughout 1948-49; but returns from other farm enterprises promised to be above average in relation to dairying.

Feed Supplies for 1948-49. The very favorable growing season in 1948 resulted in a record production of feed grains, 7 percent above the previous record in 1946, and 38 percent larger than the small crops of 1947. The increase from 1947 was pronounced in the Corn Belt. The record 1948 corn crop was fully adequate to meet domestic needs, provide larger exports, and still leave the largest carry-over in recent years. Production of hay in 1948 was the smallest since 1941, but adequate for the fewer hay-consuming livestock now on farms.

Supplies of commercial byproduct feeds will continue large through 1948-49. Oilseed cake and meal will be in record supply, and an above-average supply of byproduct feeds will be available from grain milling. Total supply of feed concentrates for 1948-49 will be the largest in recent years, and only a little below the record supply of 1942-43. With livestock on farms below the wartime peak, supplies of feed concentrates per animal are the largest on record. Ample feed supplies for 1948-49, in contrast with the small supply in 1947 ensures liberal feeding of livestock, increased exports, and the largest carry-over of feed grains in recent years.

Wheat Production, Acreage, and Prices. As mentioned, the production of wheat in the United States in 1948 was nearly 1,284 million bu., second only to the 1947 record total of 1,365 million; and world production of wheat at about 6,285 million bu. was above average and considerably above the production of 1947. Nevertheless, cash wheat prices on November 22 were 10 cents a bushel above the Government loan rate. At Minneapolis on the same date cash wheat was 15 cents above the loan value. These prices were a big advance from the low point touched in August.

Wheat at Kansas City on August 2 was about 18 cents below the loan rate. Moreover, the Department of Agriculture said in November that prices might strengthen further in the early months of 1949. In short the year-end wheat situation from the farmer's standpoint was better than had been expected in view of our near-record production and the improved bread-grain situation throughout the world. Prices seemed to reflect improvement in world buying power based partly on ECA loans and gifts, plus knowledge that in many countries especially in Europe cereal supplies would still be short of requirements.

Wheat disappearance in the United States for the 1948-49 marketing year, according to the U.S. Dept. of Agriculture, will probably reach 500 million bu. for food, 93 million bu. for seed, and 110 million bu. for livestock feed. This will leave about 775 million bu. for export or carry-over July 1, 1949. In 1947-48 United States exports of wheat (as grain or flour) were 480 million bu., the largest quantity ever exported in a single year by this or any other country. Our wheat exports amounted to about half the world trade in bread grains. Abnormal world demand, financed to a substantial extent by American loans and gifts, was the basis for this tremendous wheat-export movement, as had been the case for the entire period since World War II came to its end.

AGRICULTURE

In the years between the world wars United States wheat exports were low, as a result partly of lowered production in the United States and partly of self-sufficiency efforts in many countries. With exports in 1948-49 down to some extent from the previous year's high, building up of carry-over stocks may reach 300 million bu. by July 1, 1949, as compared with 196 million bu. on July 1, 1948. Marketing quotas will not be in effect for 1949 United States wheat production and price support is to be continued for another year at 90 percent of parity. Consequently farmers will probably seed more than the 77.7 million acres seeded for the 1948 harvest.

Cotton in Crucial Period. Supply of cotton in the United States for the 1948-49 season was about 18.1 million bales and probably will exceed the disappearance by slightly over 5 million bales. There will be 14.8 million bales from the 1948 crop, a carry-over of 3.1 million bales, and imports of about 250,000 bales. Mill consumption in 1948-49 is expected to be about 9 million bales, slightly lower than in the preceding year. Exports of cotton textiles will probably be lower. Exports of 4 million bales in 1948-49 will be required to balance foreign production of commercial cotton against foreign mill consumption. Such exports would be the highest since 1939 when over 6 million bales were exported with the assistance of a subsidy program.

World production of commercial cotton in 1948-49 is estimated to be about 28 million bales and will exceed world mill consumption for the first time since the crop of 1944. Expected increases in consumption over last year by foreign mills will more than offset the prospective decrease in consumption in the United States and will bring in consumption in the United States and will bring in the world total above 27 million bales. Even so, stocks of cotton at the end of the current season would be nearly 1 million bales larger than at the beginning of the season. The U.S. Department of Agriculture says the 1949-50 season will be a crucial period in cotton. Prices of cotton already are at loan levels and prospects are that both the domestic and world carry-over will increase. Marketing quotas will not be in effect for the 1949 cotton crop. A large crop in 1949 might result in a return to quotas for the 1950 cotton crop.

Tobacco Products and Exports. Production of cigarettes again attained a new record in 1948—about 4 percent above the previous year's high and 2¼ times that of 10 years ago. Production of cigars and snuff in 1948 was probably slightly larger than in 1947. Smoking tobacco was being produced in moderately larger quantities, but the 1948 total was substantially lower than either prewar or war years. Production of chewing tobacco in 1948 was estimated to be about the same as in 1947, the lowest on record. Per capita consumption of all tobacco products combined increased to a level strikingly above prewar with continued growth in cigarettes was the major factor in the gain in per capita consumption of tobacco; as per capita trends of other tobacco products, after fluctuations during the war, continued downward.

For three crop years prior to 1947-48 average exports of tobacco leaf almost equaled the 600 million lb. average (farm-sales weight) of 1925-29. However, the proportions of the various types in total exports changed considerably. Flue-cured tobacco increased from less than 70 percent of the total leaf exports in 1925-29 to nearly 82 percent during the last three years; meanwhile dark types (flue-cured and dark air-cured) de-

clined from more than one-fourth to 10 percent or less of the total. Burley exports trebled.

Effects of Dollar Shortage on Tobacco Exports. United States exports of tobacco leaf during the 1947-48 crop year were about 30 percent below 1946-47 and approximately the same as the 1934-38 average. The sharp drop below the previous year was the result of limited dollar resources of foreign purchasers, the biggest factor being the sharp decrease in purchases of flue-cured by the United Kingdom—our largest foreign customer. Tobacco exports in 1948-49 are expected to be larger than in 1947-48 as countries of western Europe increase their imports.

Domestic Demand Continues High. The 1947 season average price of flue-cured tobacco was the lowest in four years as total supply in relation to disappearance reached the highest level since the 1942 marketing year. The 1947 drop in disappearance was due to a 35 percent decline in exports from the previous year; domestic consumption continued large. The 1948 production of flue-cured was substantially smaller than 1947 because of the smaller acreage allotment, but total supply for 1948-49 is only slightly lower than last year due to a larger carry-over. In the year ahead, domestic consumption is expected to continue high and exports will improve as trade is stimulated by the ERP. The active demand for flue-cured tobacco generally kept average prices above the support level of 43.9 cents per lb.

Cigarette production and domestic consumption, at a new record in 1948, may go higher in 1949. Flue-cured, burley, and Maryland tobacco growers will benefit by the marked preference of American smokers for cigarettes. With high level economic activity, cigarette production may top the 1948 record of about 35,000 million.

Sugar Production Recovers. Sugar supply was back to prewar. World sugar crop for 1947-48, estimated at 34 million tons, was only about 2 percent less than the 1935-39 average. Year-end information indicated an increase of 1.5 million tons or more in 1948-49, enough to bring world sugar production above prewar. An increase of 30 percent was expected in Europe exclusive of the U.S.S.R. Russia was expected to return to prewar levels. Sugar production was recovering rapidly in the Far East, in Central and South America, in Africa, and in India. Output in Oceania was gradually returning to prewar levels.

Sugar production in the United States, in its insular areas, and in Cuba in the 1947-48 crop year amounted to 11,355,000 tons, the highest on record—37 percent more than the 1935-39 average. Production was expected to continue high in 1948-49, with a crop in the above-named areas of possibly 10.5 million tons—about 8 percent smaller than the 1947-48 crop, but 27 percent larger than the 1935-39 average. In Cuba the crop seemed likely to be reduced about 1 million tons from the 1947-48 production of 6,675,000 tons.

Conditions of the United States mainland sugar crops on Oct. 1, 1948, indicated a drop of about 9 percent from the 1947-48 output. Production in Hawaii was expected to increase about 10 percent from 860,000 tons, back to approximately its prewar level. Recovery was continuing in the Philippines with an expected increase in production in 1949 of about 50 percent over the 1947-48 crop year of 500,000 tons. Production in Puerto Rico in 1949 was expected to be at about the same level as in 1948, 1,108,000 tons.

Fruits. Aggregate production of oranges, grapefruit, and lemons in the United States more than

trebled between 1928 and 1948. Much of the increased production of oranges and grapefruit of the last ten years was canned as juice. Before the war, prices tended to decline with increasing production; during the war they rose substantially because of unusually strong demand. With the end of wartime demand, prices dropped to near prewar levels. Continued large production and low prices are in prospect for the next few years. Prices received by growers for both apples and citrus fruits were at high levels during the 1920's; they declined sharply during the 1930's. During the war period they again advanced rapidly. In 1946 and 1947 prices for both apples and citrus fruits dropped sharply. In 1947 prices for citrus fruits were near the 1935-39 level, whereas prices for apples were still more than twice that level.

Fats and Oils. Production of fats and oils from domestic materials totaled nearly as much in 1948 as in 1947. Imports amounted to moderately less. A moderate decline occurred in total domestic disappearance, with most of the reduction in the use of fats for soap. Consumption of food fats and use of drying oils was about the same as in 1947. Prices of fats and oils probably will be moderately lower in 1949 than in 1948. Except in 1935-37, when production was curtailed by drought, United States exports of edible fats and oils exceeded imports in all years of record. Lard was the leading export item. Net imports of industrial fats were severely reduced during the war. Imports of tung oil and coconut oils have recovered to the prewar level, but imports of palm oil are still far below prewar. Net trade in both edible and industrial fats is expected to be somewhat smaller in 1948 than in 1947.

Edible use of peanuts increased greatly during the war years because supplies of many other foods were scarce. After the war, foreign countries bought large quantities of peanuts for crushing. It was evident in 1948, however, that this market would diminish as world export supplies of fats, oils, and oilseeds recovered.

United States imports of fats and oils (including oilseeds in terms of oil) were smaller in 1948 than in 1947. Imports of copra declined because of smaller output in the Philippines. Large crops of flaxseed produced in the United States in 1947 and 1948 brought about reduction in our imports of linseed oil. Exports of fats and oils probably will decline moderately in 1948, but not enough to offset the reduction in imports. —ARTHUR P. CHEW

AGRICULTURE, U.S. Department of. A Department of the U.S. Government, created by Act of Congress, May 15, 1862, and directed by law to acquire and diffuse useful information on agricultural subjects in the most general and comprehensive sense. The Department performs functions relating to research, education, conservation, marketing, regulatory work, and agricultural adjustment. It conducts research in agricultural and industrial chemistry, the industrial uses of farm products, entomology, soils, agricultural engineering, agricultural economics, marketing, crop and livestock production, production and manufacture of dairy products, human nutrition, home economics, and conservation. It makes research results available for practical farm application through extension and experiment station work in cooperation with the States.

The Department provides crop reports, commodity standards, Federal meat inspection service, and other marketing services. It seeks to eradicate and control plant and animal diseases and pests. It administers more than 50 regulatory laws designed

to protect the farmer and consuming public, and enforces the Sugar Act of 1937 and the Commodity Exchange Act, June 15, 1936. It promotes the efficient use of soils and forests. It provides rural rehabilitation, and guarantees farmers a fair price and a stable market through commodity loans and marketing quotas. It also provides agricultural credit, assists tenants to become farm owners, and facilitates the introduction of electric service to persons in rural areas.

Principal agencies of the Department include the following: The Agricultural Research Administration, which directs and supervises most of the scientific research activities of the Department. Agencies which report to ARA include: the Bureau of Agricultural and Industrial Chemistry, the Bureau of Animal Industry, the Bureau of Dairy Industry, the Bureau of Entomology and Plant Quarantine, the Bureau of Human Nutrition and Home Economics, the Bureau of Plant Industry, Soils, and Agricultural Engineering, the Office of Experiment Stations and the Agricultural Research Center of Beltsville, Maryland.

Other important agencies of the Department are: the Extension Service which cooperates with State agricultural agencies in education programs; the Farm Credit Administration, organized to provide a complete credit service for farmers and farmer cooperative associations; the Farmers Home Administration, which makes loans and gives technical supervision to family-type farmers unable to get sufficient credit elsewhere; the Forest Service; the Rural Electrification Administration; the Soil Conservation Service; the Bureau of Agricultural Economics; and the Office of Foreign Agricultural Relations.

Legislative Basis of Action Agencies. In 1929 the Agricultural Marketing Act was passed, followed by the establishment of the Farm Board. The Foreign Agricultural Service Act was enacted in 1930. Enactment of the Agricultural Adjustment Act May 12, 1933, resulted in the setting up of many "action agencies" in the Department. This act was designed to establish and maintain such balance between the production and consumption of agricultural commodities, and such marketing conditions therefor, as would reestablish prices to farmers at a level that would give farm products the purchasing power they had in specified earlier base periods. The base period for most commodities was 1909 to 1914.

Subsequent legislative acts authorized other parts of the Department's action program. These measurements included: the Emergency Farm Mortgage Act of 1933; the Farm Credit Act of 1933; the Federal Farm Mortgage Corporation Act and the Jones-Costigan Sugar Act of 1934; the Soil Conservation Act of 1935; the Soil Conservation and Domestic Allotment Act, the Rural Electrification Act, and the Flood Control Act of 1936; the Agricultural Marketing Agreement legislation; the act placing functions of the Federal Surplus Commodities Corporation in the Department; the Bankhead-Jones Farm Tenant Act; the Norris-Doxey farm forestry legislation; the Pope-Jones water-facilities law; the Sugar Acts of 1937 and 1947; the marketing-agreements and surplus-diversion programs, authorized in 1937-38; and the Flood Control Act, the Agricultural Adjustment Act, and the Federal Crop Insurance Act of 1938.

The Research and Marketing Act, which became law Aug. 14, 1946, provided for extension and expansion of Department research and marketing service programs. A National Advisory Committee was appointed October 24, and an administrator

for the act was designated Dec. 5, 1946. The Farmers Home Administration Act became law Aug. 14, 1946, abolishing the Farm Security Administration as such, providing for establishment of the Farmers Home Administration, and giving it various functions and responsibilities, including some formerly in Farm Credit Administration. Secretary's Memorandum 1171, August 19, established the Farmers Home Administration as of Nov. 1, 1946.

Important Agencies of the U.S. Department of Agriculture are presented in this volume under their own titles. See AGRICULTURAL RESEARCH ADMINISTRATION; COMMODITY EXCHANGE AUTHORITY; FOREST SERVICE; FARM CREDIT ADMINISTRATION, etc.

—ARTHUR P. CHEW

AIR-CONDITIONING AND REFRIGERATION. The air-conditioning and refrigeration industry in 1948 was notable for the record dollar volume of equipment sold and for two or three innovations which were outstanding as extensions of established practice rather than as new theoretical developments. Sales records were set by manufacturers of air-conditioning equipment during the year. The high rate established in 1947 continued contraseasonally through the first quarter of 1948, and estimates set the probable total for the year at over \$250 million.

After 15 years of development, gas all-year air-conditioning now is an established service in the gas industry. Systems are in commercial production by at least four companies and include winter heating, summer cooling, and humidity control. Gas-operated heat pumps also are coming into production.

Central station air-conditioning was provided for the 16-acre shopping center of the New York Life Insurance Company's Fresh Meadows housing project on Long Island. This is the first such system to be installed. Stores will be charged on a Btu basis established by measuring both volume and temperature of supply and return chilled water piped to the premises.

Installation of air-conditioning systems in three New Orleans public school classrooms was made in an experiment to determine the effect of air-conditioning on school children and their grades. Systems will operate for three years with one split grade working in identical rooms except for air-conditioning in one. The plan is to install air-conditioning in third-grade classrooms and study students through the fifth grade in conditioned and non-conditioned rooms. Servel Corporation supplied \$15,000 worth of equipment.

Regulation of the use of water for air-conditioning and refrigeration installations in Illinois was recommended in a State water survey citing five deficient areas. The practice of "once through" use of ground-water for cooling was listed as a heavy drain on resources. An Indiana law effective in 1948 forbids removal of more than 200 gallons per minute of water from the ground for cooling unless it is circulated through cooling devices or returned to the ground through recharging wells.

Aircraft capable of flight speeds over 500 m.p.h. require continuous and highly flexible cabin-cooling to offset friction and other heat gains characteristic of high-speed flight.

For planes using jet engines, an air-cycle refrigerating unit consists of an expansion turbine which bleeds air from the jet compressor. This air can be used for heating, cooling, ventilation, and pressurization. On the cooling cycle, the jet-compressor air is cooled in a heat exchanger and then further compressed in a centrifugal compressor, cooled

again in a second heat exchanger, and finally cooled by expansion in the turbine and ducted to the cabin. Power derived from the expansion turbine is used to drive the centrifugal compressor. For heating, some of the jet-compressor air is bypassed around the cooling unit and introduced to the cabin through a mixing valve.

Air-conditioning became a collective bargaining issue with publication by the Textile Workers of America (CIO), of a 60-page technical report on air-conditioning in textile mills. The report was sent to companies under contract with the union and in it President Emil Rieve urged that employers take it under advisement and act on its suggestions.

Scientists at Ohio State University set up experiments to develop temperatures near absolute zero (0.00001° Kelvin). Dr. Herriek L. Johnston, director of the University's cryogenic laboratory described methods of using a property of matter whereby some substances, weakly magnetic at higher temperatures, become strongly magnetic near absolute zero.

Revision of the safety code for mechanical refrigeration was undertaken by a committee set up under procedures of the American Standards Association and working under leadership of the American Society of Refrigerating Engineers. Said to be the largest in the world, the Alford Refrigerated Warehouse in Dallas, Tex., will provide 1,000 tons of refrigeration to 7.5 million cu. ft. of cold storage space and 8 million cu. ft. of air-conditioned dry storage space.

A new continuous process for making ice was described by its inventor, John R. Watts, assistant professor of mechanical engineering at the University of Texas. In this method, a machine using direct expansion-freezing cylinders extrudes ice in continuous columns which can be cut into cakes.

The Florida Citrus Canners Cooperative started at Lake Wales a plant for concentrating fruit juices which works on a new principle using a refrigerating machine instead of a boiler to heat citrus juice and drive off excess moisture. The same machine at the same time cools and condenses the water vapor under vacuum. Juice is evaporated so quickly and at such a low temperature that flavor and food values are preserved. Fresh juice and pulp are added to the concentrate to reinforce the flavor; the product is passed through continuous freezers, sealed in cans under vacuum, hardened, and sold in frozen condition. The consumer adds three cans of water to one can of frozen concentrate.

The U.S. Army tested a new type of Arctic troop shelter, light enough to be transported by glider with a detail of troops and, thermostatically controlled to provide an inside temperature of 70° F. while outside temperatures hit 70° F. below zero in a wind velocity of 125 m.p.h. Inside relative humidity will be kept below 35 percent.

Winter heating and summer cooling of a large office building by means of a heat pump (reversible refrigeration cycle) was accomplished for the new 12-story office building of the Equitable Savings and Loan in Portland, Ore. Heat is extracted from, or dissipated in, wells by refrigeration machines.

—WILLIAM B. FOXHALL

AIR FORCE, Department of the. The past year has been one of notable achievement by the U.S. Air Force. In the first full year of its existence as an autonomous branch of the Armed Services, perhaps its foremost activity was the Berlin airlift. "Operation Vittles" began on June 26, 1948, in a joint effort by the Western Powers to overcome the land

blockade of Berlin. In all operations by year-end, 729,605 tons of food, fuel, and other vital supplies had been delivered by 99,593 flights, averaging 74 tons per trip. The USAF, augmented by the resources of the U.S. Navy and the British RAF, was increasing the scope and size of its effort as 1948 ended. Other milestones were the assignment to tactical units of the North American B-45, the first jet-propelled bomber in mass production; the successful launching of a tiny McDonnell XF-85 parasite fighter from the belly of a B-29 "mother ship" and its return hook-up after completing a simulated interceptor mission; and a new official world's record of 670.981 m.p.h. set by a North American F-86 jet fighter.

It was announced that the Bell X-1, a USAF aircraft, had flown faster than the speed of sound (762 m.p.h. at sea level) many times. Designed to fly at 1,700 m.p.h. at an altitude of 80,000 feet, the X-1 had not yet reached the ultimate limit of its potentialities. In cooperation with the Navy, the USAF established the Military Air Transport Service and acted as executive for that interservice command. By the end of 1948 the USAF had enlarged its over-all composition to 59 air groups toward an ultimate goal of 70 groups. Present strength includes two groups of Consolidated B-36 bombers with a range of 10,000 miles carrying a 10,000-lb. payload. With an appropriation of \$1,542 million awarded in June, the USAF ordered 2,451 new planes, of which 2,100 were to be delivered by July, 1950.

The Continental Air Command was set up in a move to centralize authority for hemispheric air defense and to augment the Reserve Forces training program. Gen. Carl Spaatz, first USAF Chief of Staff, retired from active duty in June, 1948, and was succeeded by his Vice Chief of Staff, Gen. Hoyt S. Vandenberg. Gen. Muir S. Fairchild became the new Vice Chief of Staff. No changes in top civilian administrative posts occurred. The Hon. W. Stuart Symington continued to serve as Secretary of the Air Force and Arthur S. Barrows as Under Secretary.

ALABAMA. An east south central State. Area: 51,078 sq. mi. Population (July 1, 1948): 2,848,000, compared with (1940 census) 2,832,961. Chief cities: Montgomery (capital), 78,084 inhabitants in 1940; Birmingham, 267,583. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Finance. For the fiscal year ended Sept. 30, 1946, total revenue amounted to \$124,327,000; total expenditure, \$124,569,000.

Elections. In the November election, Truman's name did not appear on the ballot, and Thurmond, nominee of the States' Rights party, received the large majority usually accorded the candidate of the Democratic party. The 11 electoral votes of Alabama thus went to Thurmond. Democratic Senator Sparkman was reelected. Democrats won all 9 seats in the lower house, as usual. There were no Statewide contests for major state offices.

Officers, 1948. Governor, James E. Folsom; Lieut. Governor, J. Clarence Inzer; Secretary of State, Sibyl Pool; Attorney General, Albert A. Carmichael; State Treasurer, John Brandon; State Auditor, Dan Thomas.

ÅLAND ISLANDS (Åvenanmaa). An archipelago at the entrance to the Gulf of Bothnia, 15 miles from the coast of Finland and 25 miles distant from the coast of Sweden. This group of some 300 islands, 80 of which are inhabited, forms an autonomous

department of Finland. Total area: 572 square miles. Population (1940): 27,872. Capital, Maarianhamina.

ALASKA. The territory of Alaska lies in the far northwest corner of the North American continent and includes the Aleutian Islands which extend westward more than 1,200 miles toward the Kamchatka Peninsula. The area of Alaska, inclusive of inland waters, is approximately 586,400 square miles or approximately one-fifth the area of continental United States. Three-fourths of Alaska is in the North Temperate Zone.

Population. According to the 1940 census the population of Alaska was 72,524, of which whites numbered 40,066 and natives (Indians and Eskimos) 32,458. Eskimos accounted for 15,576, Indians for 11,283 and Aleuts for 5,599. The population of Alaska in 1947, excluding members of the armed forces, was estimated at 91,000. Juneau, the capital of Alaska, had a population of 5,729 in 1940 and was estimated to have 7,000 in 1947.

Education. Alaska has two school systems, one supported wholly by the Territory and its individual municipalities and school districts; the other for natives (Indians and Eskimos) administered by the Federal Government, through the Office of Indian Affairs. The University of Alaska, founded in 1922, had an enrollment of 334 in 1946-47. In the same year there were 13,254 students enrolled in the primary and secondary schools.

Production. The leading industries of Alaska in order of their importance are fishing, mining, and fur farming. The value of manufactured fishery products in 1947 was \$90 million. Salmon fishing and packing, which formerly accounted for 80 percent of the people employed in Alaska, has in recent years been supplanted as the No. 1 employer by the construction industry. The normal annual salmon pack for Alaska runs 6 million cases (of 48-one-lb. cans). Alaska alone accounts for 60 percent of the world's supply of salmon. There are 90 salmon canneries and they employ about 25,000 persons. Other fish caught in Alaskan waters and marketed commercially include herring, halibut, cod, shrimp, crabs, etc.

Mining, which ranks second in importance as an industry, was seriously curtailed during World War II and has not yet recovered its prewar levels of production. Gold, the leading mineral export, ranks second to salmon exports, but in 1947 only \$10,580,465 was produced, in contrast with \$26,178,000 in 1941. Other minerals mined in Alaska include coal, mercury, silver, copper, lead, and platinum. Total value of mineral production (1947): \$14,341,000.

Alaska's third leading industry is fur farming and the sale of furs derived from trapping. The production of furs during 1947 amounted to \$3,830,839 (excluding fur seals). Mink pelts (valued at \$1,945,110), and sealskins are the two leading products. The Pribilof Islands account for 85 percent of the world's supply of sealskins, the herd being estimated at 3.6 million fur seals.

The three principal farming areas in Alaska are located in the Kenai Peninsula (Homer Area), Tanana Valley (near Fairbanks), and the Matanuska Valley (near Palmer). The products grown are largely for local consumption, i.e. vegetables, livestock, dairy products, poultry, and potatoes. Most crops common to North America can be grown in Alaska. One of the most interesting experiments in agricultural colonization ever undertaken under Government sponsorship was the Matanuska Valley Colonization Project, fifty miles from

Anchorage at the head of Cook Inlet. To this area in 1935 were moved 200 families from Minnesota, Wisconsin, and Michigan. Farms in Alaska produced an estimated \$2,250,000 worth of products in 1947.

The national forest area covers 20,883,421 acres (1946) and yielded 68.1 million board feet of timber in 1947. The estimated stand is approximately 85,000 million board feet, of which 73 percent is hemlock, 21 percent spruce, and 6 percent cedar.

Trade. The total commerce between the United States and Alaska since 1867 exceeds \$4,500 million. Exports of Alaskan products to the United States in 1946 totaled \$73,775,896. Imports from the United States by Alaska totaled \$75,007,229.

Finance. Revenues of the Territorial Government for 1947-49 are estimated at \$6,686,000. Since appropriations totaled \$10,159,184, and since the Organic Act which Congress passed respecting government in Alaska prohibits the incurring of a debt, the Territorial Board of Administration is regulating expenditures so as to stay within the income of the territory.

Government. Although Alaska was purchased from Russia in 1867 for \$7,200,000 it did not become an "incorporated Territory" until 1912 when Congress passed an "Organic Act" creating the Territory of Alaska. Under its terms the Territory does not merely belong to the United States, but is a part thereof. The Constitution and laws of the United States are automatically in force with the exception of certain provisions which are clearly not applicable. The Territorial Government is headed by a Governor appointed for a four-year term. He is assisted by a Secretary of Alaska. In addition, there is a Territorial Legislature which meets for a period of 60 days biennially beginning with the fourth Monday in January of uneven years. Commencing with the 1945 session the number of members in this body was increased to include 16 Senators and 24 representatives. A delegate (Edward L. Bartlett in 1948) is elected by Alaskans every two years to represent Alaska in the U.S. Congress. He is empowered to prepare and introduce legislation, and act as a member of Committees, but he has no vote. Most of the functions of government, including administration of health, welfare, education, etc., are responsibilities of the Territory, but expenses of the legislature and judiciary have remained a Federal function. Governor: Ernest Gruening (first appointed 1939).

Events, 1948. Alaskan events during 1948 centered around the continued drive for Statehood. This drive began in 1946 when the electorate voted to seek admission to the Union on a basis of equality with the other 48 States.

Some progress towards this end was recorded during the year. In February a subcommittee of the House Committee on Public Lands recommended full Statehood for Alaska. This was the first hearing ever given any bill to make Alaska a State. On Apr. 7, 1948, legislation granting Statehood was unanimously approved by the House Public Lands Committee. The approved bill eliminated State recognition of tribal rights and granted the proposed State an added million acres of land. Alaskans felt that the election of President Truman would assure Alaska of Statehood at the next session of Congress.

Concern was expressed over the poorest salmon fishing season in the Territory's history. The salmon pack is the basis of economic life and many communities are greatly affected by the poor catch. By the end of August southeastern Alaska had

canned but 80,000 cases, as against 340,000 the previous year.

Culminating the efforts of some 30 years to establish paper mills in Alaska, the U.S. Forest Service in August accepted bids of the Ketchikan Pulp and Paper Company to establish a paper industry at Ward's Cove. The proposed mill was estimated to cost from \$20 to \$30 million. The total timber involved in the deal was approximately 8,000 million cu. ft., to be cut on a sustained yield basis.

ALBANIA. A Balkan republic on the eastern shore of the Adriatic Sea. Area: 10,629 square miles. Population: 1,063,000 (Jan. 1, 1940). Chief towns: Tirana (capital), 30,806 inhabitants (1930); Scutari (Shkodër), 29,209; Koritsa (Korçë), 22,787; Elbasan, 13,796; Durazzo (Durrës), the chief port, 8,739.

Education and Religion. Great strides are being made to reduce the country's high illiteracy. In 1946-47, 450 new schools brought the total to 1,759 elementary schools. On the secondary level, there were 56 schools with about 15,000 students. Primary education is compulsory. The population, by religion, includes 688,280 Moslems, 210,313 Orthodox Christians, and 104,184 Roman Catholics.

Production. By the end of 1946 some 200,000 landless peasants, constituting about 25 percent of the farming population, had been allotted land. Chief crops are maize (86,000 metric tons in 1946) and wheat (60,000 metric tons in 1946). Other products are tobacco, timber, wool, dairy products, olive oil, cattle, and hides. Estimated livestock (1946): Horses, 50,000; asses, 40,000; cattle, 345,000; sheep, 1,548,000; goats, 854,000. With few exceptions, the mineral wealth of the country remains undeveloped. Copper mines, bitumen mines, and salt pits are being worked successfully. Crude oil production reached prewar levels in 1946. Work on a hydroelectric power plant near Tirana was begun in 1947. Since World War II, the country's foreign trade has been confined almost entirely to barter.

Transportation. Of the 1,759 miles of highways (1940), 750 were suitable for motor vehicles. But the network was badly damaged during World War II. Construction of a railway between Durazzo and Elbasan, the first in Albania, was begun in May, 1940.

Government. Albania was proclaimed a republic on Jan. 12, 1946, following general elections held on Dec. 2, 1945. The dominant party is the National Liberation Front, led by General Enver Hoxha (Hodja), who is Prime Minister and Minister for Foreign Affairs. A new constitution was promulgated on Jan. 12, 1946.

Events, 1948. Hoxha's régime is controlled from the U.S.S.R., with Soviet advisers in the Ministries and Russian organizers in the army. The government refused to participate in the Marshall plan, in spite of the great need for outside help. Although no treaties of collaboration were signed with the U.S.S.R., Hoxha carried out Moscow's instructions and was repeatedly accused by the U.N. Balkan Committee of aiding the guerrillas operating against Greece. Opposition to Hoxha was evidenced by the purge of more than 3,000 persons in August and the growing number of Albanians who reportedly fled across the frontier into Yugoslavia. In October, a purge of "Trotskyists and Tito's friends" resulted in the downfall of Interior Minister Koci Xoxe and five other top Communist leaders, including Pandi Christo, a member of the Albanian Politburo, and the appointment of a new

Army chief of staff, Major General Mehmet Shehu, a Moscow-trained soldier.

Serving as the spearhead of the Cominform attacks against Tito, Albania severed trade relations with Yugoslavia on July 8, in spite of the disastrous food situation in the country, and ordered Tito's military, political, and cultural missions to get out (thus violating the economic treaty of November, 1946, drafted for a 30-year period). Jakova, Minister of Industry, accused Tito of trying to absorb Albania into Yugoslavia and announced that the Soviet Union would sell goods to Albania "four times cheaper than the price fixed by the Yugoslavs." In September, the United States, Great Britain, and France charged Albania with failing to disarm Greek refugees who fled across the frontier. On October 1, the United States State Department sharply attacked the Albanian rejection of a request of the United States, Great Britain, and France that the United Nations Special Committee on the Balkans be permitted to operate in Albanian territory. The Corfu incident was debated before the United Nations Security Council which decided, 7 to 2, that the mines "had been placed with the knowledge of the Albanian Government." The case was heard by the International Court of Justice in November, Great Britain charging that Yugoslavia had laid, in Albanian waters, the mines that blew up two British destroyers on Oct. 22, 1946.

As an ideal place from which to exert pressure on Greece, the U.S.S.R. used Albania to support Markos' rebels against Greece. In fact, in August, when Greek Army troops hammered Markos' flanks in the Grammos Mountains, Markos moved his headquarters and most of his provisional government to Nikoliata, in Albania. On November 10, the Political and Security Committee of the UN General Assembly charged Albania (together with Yugoslavia and Bulgaria) with endangering peace in the Balkans and decided to keep the United Nations on-the-spot observation committee at work in Greece for another year.—JOSEPH S. ROUCEK

ALBERTA. One of the prairie provinces of Canada lying between Saskatchewan and the Rocky Mountains. Area, 255,285 square miles, including 6,485 square miles of fresh water. Population (1948 estimate), 846,000. Vital statistics (1946): 22,184 live births; 6,601 deaths; 9,478 marriages. Chief cities: Edmonton (capital) 113,116 inhabitants in 1946 (quinquennial census), Calgary 100,044, Lethbridge 16,522, Medicine Hat 12,859. Education (1945-46): 181,228 students enrolled in Alberta's schools and colleges. Religion: United Church 193,664, Roman Catholic 191,343, Anglican 113,279, Lutheran 84,630, and Presbyterian 68,910.

Production. The gross value of agricultural production for 1947 was \$354,895,000. Value of all major field crops produced on 13,967,000 acres in 1947 amounted to \$273,235,000. Chief field crops (1947): wheat 103,000,000 bu. valued at (\$136,990,000), oats 75,000,000 bu. (\$52,500,000), barley 52,000,000 bu. (\$52,520,000), rye 4,250,000 bu. (\$14,960,000), flaxseed 2,150,000 bu. (\$11,180,000), sugar beets 366,000 tons (\$5,483,000). Livestock (June 1, 1947): 1,654,000 cattle (\$126,136,000), 410,900 horses (\$19,619,000), 964,100 swine (\$21,940,000), 613,800 sheep (\$6,053,000), 10,916,000 poultry (\$10,016,000). Fur production (1946-47): \$3,738,788. There were 1,027 fur farms (1946) with fur-bearing animals valued at \$3,049,500. Marketed value of fisheries (1946) was \$1,339,083. Dairy products (1947) included

32,068,000 lb. of butter (\$16,355,000); 3,111,000 lb. of cheese (\$1,172,000); 6,507,000 lb. of honey (\$1,366,000). Estimated total farm value of poultry and eggs was \$20,095,000 in 1947. Mineral production included 8,070,430 tons of coal (1947) valued at \$36,439,158; 6,770,477 barrels of oil; and 44,106,643 M cubic feet of natural gas (\$7,745,886). The total value of mineral production (1947) was \$67,432,270.

Manufacturing production (1946) in 1,315 establishments employing 22,694 persons had a gross value of \$257,031,867. The slaughtering and meat-packing industries ranked first in importance in 1946. Other important industries were flour and feed mills, petroleum products, dairy products, and breweries.

Finance. For the year ended Mar. 31, 1947, revenue totaled \$42,588,038; expenditure \$31,939,342; net general debt \$126,146,821.

Government. The executive power is vested nominally in the Lieutenant Governor but actually in the ministry of the Legislature. There is a Legislative Assembly of 57 members elected by direct vote of the people. Party standing at latest general election (Aug. 17, 1948): 51 Social Credit, 2 CCF (Co-operative Commonwealth Federation), and 4 others. Alberta is represented by 6 Senators (appointed for life) and 17 elected commoners in the Dominion Parliament at Ottawa. Lieutenant Governor, J. C. Bowen (app. Mar. 20, 1937); Premier, E. C. Manning (app. May 31, 1943, Sept. 12, 1944, and reelected Aug. 17, 1948). See CANADA.

ALEUTIAN ISLANDS. An archipelago extending for 1,000 miles westward from the extremity of the Alaska peninsula, and forming a part of the Territory of Alaska. The Aleutians comprise four main groups: Near Islands (Attu, Agattu, and the Semichis), Rat Islands (Amchitka, Agafar, Agat, Kiska, Little Sitkin, Rat, Chirpik, Dardik, and Khwostof), Andreanof Islands (Atka, Amlika, Great Sitkin, Adak, Kanaga, Tanaga, etc.), Islands of Four Mountains (Chuginadak, Herbert, Carlisle, Kagamil, and Uliaga), and Fox Islands (Unimak, Unlaska, Umnak, and the islands of the Krenitzen group—Ugamak, Tigalda, Avatanak, Rootok, Akun, and Akutan). Total area: 6,821 square miles. Population (1939): 1,300.

ALFALFA. In 1948 the alfalfa hay crop of the United States amounted to 34,083,000 tons. The yields of the principal producing States (in tons) were: California 4,162,000; Kansas 2,411,000; Nebraska 2,192,000; Idaho 1,968,000; Wisconsin 1,948,000; Minnesota 1,804,000; Michigan 1,606,000; Iowa 1,509,000; Colorado 1,435,000; Illinois 1,323,000; Montana 1,316,000. Alfalfa seed produced in the United States during 1948 totaled 989,900 bushels. See HAY.

ALGERIA. A territory of France in northwest Africa. The country is divided into Northern Algeria (comprising the departments of Algiers, Oran, and Constantine) and Southern Algeria (comprising the territories of Ain Sefra, Ghardaia, Touggourt, and Saharan Oasis). The estimated population on Jan. 1, 1947, was 8,488,000 including 1,043,000 Europeans and 7,440,000 Moslems. Chief cities (estimated 1947 populations): Algiers, 360,000; Oran, 252,500; Constantine, 121,200; Bona (Bône), 82,400; Tlemcen, 71,400; Blida, 65,600; Sidi-Bel-Abbes, 65,500.

Education. In 1946-47 there was a total of 2,043 elementary and secondary schools with 322,905 students, and 5,143 students were enrolled at the

university in Algiers. Six Normal schools provide teacher training.

Production. Agriculture and stock raising are the chief occupations. One third of the total area under cultivation (15,600,000 acres) is owned by Europeans. Principal crops in 1946 were (in metric tons): cereals (wheat, barley, and oats), 1,665,100; citrus fruits, 110,000; alfalfa, 100,000; dry dates, 30,470; potatoes, 1,100,000 quintals; legumes, 180,000 quintals. Other products were (in U.S. gallons): wine, 244,197,412; brandies, 13,784,000; and olive oil, 1,956,400. Wool, mohair, and hides are also exported. Mineral output (in metric tons) was: natural phosphates, 584,827 (1946); pyrites, 40,359 (1946); iron ore, 1,560,000 (1947); coal, 214,885 (1946). Local canneries processed a total of 3,080,021 kilos of fish in 1945.

Trade and Finance. The 1947 imports totaled 45,384,000,000 francs; exports, 35,796,000,000 francs. Budget estimates for 1947 placed revenue at 22,386,438,796 francs; expenses at 22,340,000,560 francs. A separate post office budget was estimated to balance at 1,644,500,000 francs for 1947.

Transportation. In 1946 Algeria had 3,396 miles of railway line in operation; some 20,000 miles of road, 4,316 miles of which were paved national highways and 14,841 miles were secondary gravel roads. Air services connect Algiers with Marseille, France, with the United States, and with other parts of Africa. Construction of a trans-Saharan railway, begun in 1941, was interrupted in 1942.

Government. The over-all administration rests in the hands of a Governor General, who is responsible to the government of the Fourth Republic in Paris, in particular to the Minister of the Interior. Northern Algeria is divided into 3 departments (Constantine, Algiers and Oran), which before World War II sent elected representatives to the French Chamber of Deputies and Senate. Natives were represented only on local bodies, including the largely consultative *Délégations Financières*, and even for these the number of Moslem electors was greatly restricted. After the liberation of France the franchise was broadened and Algeria was represented in the National Assembly. On Sept. 1, 1948, the latter body adopted a new Statute for Algeria, permitting even greater Moslem participation in government.

Events, 1948. The outstanding political event in Algeria during 1948 was the April election. This was the first poll taken under the new Statute and its results were awaited with anxiety by both the French government and Algerian public opinion. The Assembly to be filled by the election was composed of 120 seats, divided equally between two electoral colleges. The first college comprised some 600,000 voters, of whom all were Europeans except some 80,000 Jews and 100,000 Moslems (the latter having special educational or service qualifications). The second college consisted of approximately 1,200,000 Moslems, or about 40 percent of the adult males of Berber and Arab ancestry.

Contesting the 60 seats in the first college were, in general, the same parties prominent in the political life of metropolitan France, including the Communists. The two main parties running in the second college were the movement for the Triumph of Democratic Liberties and the Democratic Union of the Algerian Manifesto. The first, led by Messali Hadj, was for outright independence and an orientation toward the old-style theocratic Islamic state. The other, captained by Ferhat Abbas, though also separatist in its objective, was more aimed at providing Algeria with a European political structure and economy and at giving Al-

gerians the same rights as Frenchmen. In addition there were a number of conservative independents unwilling to break the tie with France, and the Communists, regarded as anti-Islamic.

The first round of the election was held on April 4, with violence marking the occasion in several places, notably at Annaba where several persons were killed in a fight between police and nationalists. The results of the voting showed a need for run-off polls in 23 constituencies in the first college and 19 in the second. This was considered to represent a high proportion of decisive results on the first round. The second vote was set for the 11th, and in the intervening week many candidates withdrew and various deals were made, particularly to prevent the Communists from gaining any seats—they had won none in the first round.

The run-offs confirmed the moderate trend already manifested in the earlier voting. Final results were as follows.

In the first college: Union Committee and R.P.F. (De Gaulle), 38; Independents, 14; Radical, 1; Socialist Radical, 1; Socialist, 1; Communist, 1. In the second college, where the number of abstentions appears to have been about 30 percent, the division of seats was: Independents, 43; Messali Hadj's party, 9; Ferhat Abbas' party, 8. The moderates thus not only dominated each college but actually provided the 73 majority necessary for important questions. Under these circumstances it was felt that the new assembly might function without too much friction with the French administration. In any case, its powers were very definitely limited.

Observers were quick to remark the relatively poor showing of the two separatist parties and of the Communists. The latter had steadily lost ground since the end of the war. They no longer had representatives of their party in the government in Paris who could give a helping hand to the comrades in North Africa. They further had less economic distress on which to play. The party's leaders decided that in the future they must identify the Communist platform with nationalist aspirations among the Moslems throughout French North Africa. Algeria was important because it alone had a representative, elective assembly through which native opinion could effectively make itself heard. Even in Algeria less than half the adult males held the franchise. The fact that the Communists were still regarded as dangerous is indicated by the action of the Council of the Department of Algiers in October when it voted 24 to 2 to demand the dissolution of the Communist Party.

Communist propaganda could, of course, feed on the perpetual shortage of food and other necessities among the masses. The population of French North Africa was increasing faster than the means of subsistence. At the same time, the cry for land reform meant, if carried out, dividing up the European-controlled farms into small plots, which would further decrease the productivity of the soil since the natives' methods of farming were very backward. In order to furnish expert advice on how to improve the agricultural output of North Africa, the French government asked Walter Clay Lowdermilk, noted American reclamation engineer, to carry on an extensive study in Morocco, Algeria and Tunisia. Upon returning to the United States in October after a four-months tour, he reported that an attack on the problem had already been launched. He recommended classifying the land for its most suitable use (cultivation, pasture or forest), and employing such tried American tech-

niques as contour-plowing, crop rotation and water control in order to conserve resources and increase production.

In mid-November, America's greatest wheat-grower, Thomas D. Campbell of Hardin, Montana, left for a tour of French North Africa to investigate and report to the French government on the possibilities of increasing grain production in those countries.

—ROBERT GALE WOOLBERT

ALIEN PROPERTY, Office of. A Division of the U.S. Department of Justice; established pursuant to Executive Order No. 9788 of Oct. 14, 1946. An Assistant Attorney General is Director of the Office and exercises the functions and powers on behalf of the Attorney General in controlling, directing, managing, supervising, vesting, and liquidating properties vested from enemy nationals and enemy governments.

The vested properties consist of business enterprises; patents, copyrights, and trademarks; estates and trusts; and real and personal property. It is the policy of the Office to liquidate, except patents, copyrights, and trademarks, properties vested from enemy nationals and their governments as soon as practicable through a program of public sales. The return of properties vested from certain non-hostile persons and the payment of debt claims is authorized by statute. The net proceeds available after the liquidation of properties vested from the governments and nationals of Germany and Japan are to be made available for the settlement of certain types of war claims of United States civilians and military personnel.

Pursuant to Executive Order No. 9889 of Aug. 20, 1948, control over blocked assets of certain foreign governments and their nationals was transferred from the Secretary of the Treasury to the Attorney General and is being administered by the Office of Alien Property. The policy of releasing blocked assets is designed to aid the European Economic Recovery Program. Director: David L. Bazelon, Assistant Attorney General.

ALUMINUM. Domestic and world demand for aluminum was tremendous in 1948 and could not be satisfied by reduction facilities which were limited by world-wide power shortages. The heavy demand was caused in part by shortages of steel and nonferrous metals, and by a market transition in favor of aluminum caused by price rises less severe during the year than in most other metals.

Domestic production of primary aluminum was approximately 620,000 tons, up from 571,750 in 1947. This was a peak postwar tonnage, and more than two-thirds of the wartime production peak in 1943.

Prices of pig aluminum and primary ingot were advanced 2 cents per lb. during the year, to 16 cents and 17 cents, respectively. Mill products were also advanced appreciably, and extra charges were revised. Although the industry sets its prices on the basis of f.o.b. plant with minimum freight allowed, one producer discontinued the freight allowance on pig and ingot in November.

Aluminum scrap was very scarce throughout the year and competition for it was active between ingot makers and primary producers. Secondary ingot prices, in consequence, were pushed up to a top range of 27 cents to 31 cents per lb., well above the price of comparable primary ingot.

All primary producers of aluminum were required by the shortage to place customers on a quota basis. In addition, they restricted consumption largely to applications expected to continue

when other metals become plentiful. Development and promotion of new fields of application were held in abeyance.

To the end of September, the Economic Cooperation Administration had issued authorizations to western European nations to permit them to purchase 100,000 tons of Canadian ingot aluminum at U.S. Government expense. The principal beneficiary was the United Kingdom, granted more than 90,000 tons. By the end of August, imports of aluminum scrap, ingot and sheets from that area had reached significant proportions. In the five months since the inception of the ECA program, imports totaled 21,000 tons. The shortages of all forms of aluminum during the year fostered the growth of gray market operations.

The Bonneville Power Administration, beset by the rapidly growing power needs of the Northwest, was forced to restrict the power available to all aluminum reduction plants in that area toward the end of the year, and served notice that further curtailment might be necessary during a two-hour a day interruptible period. The maximum restriction would involve an ingot loss estimated at 23,000 lb. a day out of total capacity of 1.6 million lb. a day.

Construction of a new reduction plant at Point Comfort, Tex., was begun by the Aluminum Company of America. It will have a capacity of 35,000 ingot tons a year. Natural gas will be the source of power, to be converted by a battery of diesel engines into 80,000 kva. This departure of the industry from the use of conventional hydroelectric power signifies an important step in the direction of higher power costs.

The government-built Massena, N.Y., reduction plant, adjacent to a plant of its own, was bought by the Aluminum Company of America from War Assets Administration for \$5 million. A consideration in the purchase was an agreement made by the company to release all its alloy patents and its most important process and fabricating patents for the free use of the entire aluminum industry.

Inadequate power will prevent both plants at Massena from being placed into full production. There will be a net gain of only 4 percent in ingot production until more power is made available. Next year the company's old plant at Niagara Falls will be closed down. This will represent a loss of 20,000 tons annual capacity.

Consumption of aluminum by the rearmament program was just beginning to make its effect felt by the end of the year when the first evidences of procurement for the 70-group air force and for airborne equipment were observed. The National Military Establishment is giving much consideration to the construction of a great variety of military equipment in light metals.

Production of secondary aluminum was restricted throughout the year by the scarcity of scrap. Secondary smelters had produced 136,519 tons by the end of September, down from 144,171 tons in the same period last year. Imports of crude aluminum from Canada had reached 73,970 tons by the end of November. U.S. exports, to the end of August; sheets, plates and strip totaled 37,790 tons; crude metal, 1,147 tons. Canadian ingot production was approximately 375,000 tons in 1948.

Domestic production of bauxite, almost wholly from Arkansas, constituted only one-third of the raw material used by alumina plants of the United States in 1948. The balance was imported, principally from Surinam.

—JOHN ANTHONY

AMERICAN FEDERATION OF LABOR (AFL). Founded Nov. 15, 1881, a federation of national and interna-

tional unions, state federations of labor, city central bodies, departments, directly affiliated local unions, and councils of unions employed in overall industries. Its purpose is the advancement of workers' interests economically, politically and socially. Dues-paying membership as of August, 1948, was 7,220,531. President, William Green; Secretary Treasurer, George Meany. Headquarters: A.F. of L. Building, 901 Massachusetts Ave., NW, Washington 1, D.C.

AMERICAN LABOR PARTY (ALP). A political party organized in 1936 for independent political action in the State of New York. The ALP is the New York State arm of the Progressive Party. In the 1948 elections, the ALP achieved the highest statewide vote in its twelve-year history by getting 508,000 votes for Henry A. Wallace. This exceeded the previous record high of 496,000 votes for Franklin D. Roosevelt in 1944.

Major planks of the ALP program included resumption of peace talks between the United States and the Soviet Union, repeal of the Taft-Hartley Law, effective price and rent control, outlawing of discrimination, and extension of social security. Chairman, Vito Marcantonio; Secretary, Douglas L. MacMahon; Treasurer, Alvin Udell; Executive Secretary, Arthur Schutzer. Headquarters: 570 Seventh Ave., New York 18, N.Y.

AMERICAN LEGION, The. An organization of American veterans of World Wars I and II. The original organization was founded in Paris, France, in 1919. On Oct. 29, 1942, President Roosevelt signed Public Act 767, making honorably discharged veterans of World War II eligible for membership. The organization is nondenominational and nonpolitical, and is active in promoting the interests of veterans, particularly of disabled veterans, and their dependents; and in work for Americanism, adequate national defense, community service, child welfare, rehabilitation, youth training, and other social needs. The annual observance of American Education Week was originated by the Legion in 1921. Its campaign for Americanism involves a continual fight against the inroads of communism and other alien "isms." The American Legion has successfully championed many laws providing for adequate care of disabled veterans, war widows, and orphans.

The Legion has two national publications, *The American Legion Magazine* and *The National Legionnaire*, as well as a number of weekly, semi-monthly, and monthly state, district, county, and post news organs. In 1947-48 the membership was 3,072,048 in 17,176 posts. National Commander for 1948-49: Perry Brown, Beaumont, Texas. National Adjutant: Henry H. Dudley, Indianapolis, Ind. Headquarters: 777 North Meridian St., Indianapolis 6, Ind.

AMERICAN LITERATURE. There was an undercurrent of vitality and maturity in American literature of 1948. The best-seller lists included an increasing number of distinguished books and very few adolescent daydreams disguised as costume romance. The war was rediscovered and came in for full treatment both by the novelists and by the architects of our military victory.

Biography. Biographers continued to favor American historical figures. Douglas S. Freeman published the first two volumes of his monumental six-volume work on *George Washington*. Other Revolutionary figures were treated in Dumas Malone's *Jefferson The Virginian*; Karl Lehmann's

Thomas Jefferson: American Humanist; Irving Brant's *James Madison: The Nationalist*; the Constitution years only; and Herbert S. Allen's *John Hancock: Patriot in Purple*. Morris Bishop wrote a life of *Champlain*; and Lincoln's law partner and first biographer was studied in David Donald's *Lincoln's Herndon*. Biographies of more recent figures were W. C. Richard's *The Last Lillienath*, a study of Henry Ford; Frederick Palmer's *John F. Pershing: General of the Armies*; Ernest Samuels' *The Young Henry Adams*; Basil Matthew's *Booker T. Washington*; and Wilson Whitman's *David Lillienath*.

Biographies and autobiographies of figures of the Roosevelt era continued, of which the most valuable for the historian were Robert Sherwood's *Roosevelt and Hopkins* and Henry L. Stimson's autobiography *On Active Service*. Elliot Roosevelt edited the second volume of *F. D. R.: His Personal Letters*. Any tendency to hero-worship of Roosevelt was countered by James A. Farley's *Jim Farley's Story* and John T. Flynn's vitriolic *The Roosevelt Myth*. Roosevelt's Secretary of State published his two volume *Memoirs of Cordell Hull*. Roosevelt's predecessor, Herbert Hoover, was given uncritical eulogy in Eugene Lyons' *Our Unknown Ex-President*.

Autobiographies of general interest were *A Man Called White*, the Negro leader; *So Far, So Good* by Morris Ernst; *Enjoyment of Living* by Max Eastman; *My Life as Teacher* by John Erskine; *All Our Years*, by Robert Morris Lovett; *Family Circle* by Cornelia Otis Skinner; and *The Making of an Insurgent* by Fiorello H. LaGuardia.

History and Current Issues. The tremendous events of the last two decades continued to absorb the attention of both the active participants and professional historians. The most important book on the military aspect of the war was Gen. Dwight D. Eisenhower's *Crusade in Europe*. The deeds of the three services were recounted: Fletcher Pratt wrote *The Marines' War*; S. E. Morison published the third volume of his *History of U.S. Naval Operations in World War II*, called *The Rising Sun in the Pacific*; and the Historical Division of the Army issued *U.S. Army in World War II: The Army Ground Forces*. Theodore H. White edited *The Stilwell Papers*, our war in the CBI theater. The period preceding the war was detailed by Frederic L. Paxson's *Post-War Years: Normalcy 1918-1923*; Dixon Wecter's judicious *The Age of the Great Depression*; and Charles A. Beard's *President Roosevelt and the Coming of the War*. In *Washington Witch Hunt* Bert Andrews exposed the hysteria and stupidity of the Loyalty Tests. Major books about other nations included: *The United States and China* by John K. Fairbank; *I Saw Poland Betrayed* by Arthur Bliss Lane, our ex-ambassador to that country; *The Silent People Speak* by Robert St. John, about Yugoslavia; and *A Russian Journal* by John Steinbeck.

New interpretations of earlier phases of American history included Max Saville's *Seed of Liberty: The Genesis of the American Mind* and Louis B. Wright's *The Atlantic Frontier*, both studies of Colonial culture; and Carl Van Doren's enthusiastically received *The Great Rehearsal*, the story of the adoption of the Constitution. The Civil War period was treated in Roy F. Nichols' *The Disruption of American Democracy*, the tragedy of weakness under Buchanan; E. Merton Coulter's *The South During Reconstruction*, volume eight of his *History of the South*; E. S. Miers and R. A. Brown's *Gettysburg*, an editing of official reports and eyewitness accounts of America's most glau-

ous battle. The newly opened Lincoln papers were described in David Mearns' *The Lincoln Papers*; and William B. Hasseltine wrote the story of *Lincoln and the War Governors*. Morris Cohen's *The Meaning of History* was a profound study but far less metaphysical than Toynbee's famous work.

The American Scene. There was a slight falling off in the number of appreciative works on the various regions of America, and a steady increase in books which take up our unsolved social problems. The whole field of minority groups was analyzed by R. M. McIver in *The More Perfect Union*; the story of the Negro in American life was effectively presented by Roi Ottley in *Black Odyssey* and Arnold Ross in *The Negro in America*; the case against anti-Semitism by Carey McWilliams in *A Mask for Privilege*; and in Mordecai Kaplan's *The Future of the American Jew*. In a readable but scholarly way John Collier wrote about *The Indians of the Americas*; while the Indians of the American West were treated in Stanley Vestal's *Warpath and Council Fire*. Sumner Welles' *We Need Not Fail* pleaded for support of the UN; while Crane Brinton's *From Many One* and Paul McGuire's *Experiment in World Order* went beyond to discuss problems of real world government.

Regional studies continued. *The Tennessee* by Donald Davidson and *The Mohawk* by Codman Hislop were added to the Rivers of America Series. Roderick Peattie wrote about *The Berkshires: The Purple Hills*. Two volumes were added to the Society in America Series: *Washington Cavalcade* by Charles Hurd, and *Memphis Down in Dixie* by Shields McIlwaine. Elliot Paul recaptured the traditions of the old West in *A Ghost Town on the Yellowstone*. Wright Morris's *The Home Place* was a vivid presentation in picture and text of the culture of Nebraska.

Many books came to grips with what is called the "Cold War." Three notable ones were Martin Ebon's *World Communism Today*; Fritz Sternberg's *How to Stop the Russians*, a plea for democratic reform; and David Bradley's *No Place to Hide*, the implications of Bikini.

Prose Fiction. The year opened auspiciously with Ross Lockridge's *Raintree County*, an epic novel of the Middle West. Novels interpreting the tensions of modern life included: Irwin Stark's *The Invisible Island*, race prejudice in New York City; *This Very Earth* by Erskine Caldwell, the poor white in the South; *Plunder* by S. H. Adams, corruption in Washington; and in Waldo Frank's *The Invaders* the A-bomb explodes over New York. Hiram Haydn's well received *The Time is Noon* treated youth in the '20's. Outstanding war novels were Norman Mailer's *The Naked and the Dead*, war in the Pacific; Irwin Shaw's *The Young Lions*, centered in the E.T.O.; John Cobb's *The Gesture*, air force men in England; and J. G. Cozzen's *Guard of Honor*, an army air base in Florida.

The vogue of the historical novel continued, but its quality was up sharply. Both Carl Sandburg's *Remembrance Rock* and Esther Forbes' *The Running of the Tide* were widely acclaimed. In *The Ides of March* Thornton Wilder rewrote Roman history; Pearl Buck's *Peony* described the assimilated Jewish community in China; and *My Glorious Brothers* by Howard Fast, the Maccabean revolt.

Novels based on American history included *Toward the Morning*, the third of Hervey Allen's series about a white child and the Indians; *Eagle in the Sky* by Van Wyck Mason, a novel of the Revolution; *Great Mischief* by Josephine Pinckney,

Charleston before the Civil War; and *The Great Blizzard* by Albert E. Idall, the famous blizzard of '88.

The Gilded Hearse by Charles Gorham; *The Great Ones* by Ralph Ingersoll; *Important People* by Robert Van Gelder; and *The Locusts Have No King* by Dawn Powell all illustrate the moral bankruptcy that comes with success. *The Inheritance* by Allan Seager; *The Patchwork Time* by Robert Gibbons; *The Moth* by James M. Cain; and *Other Voices, Other Rooms* by Truman Capote took up the frustrations of childhood and adolescence.

The abnormal was revealed in Gore Vidal's *The City and the Pillar*, homosexuality; Charles Jackson's *The Outer Edge*, normal people's reaction to murder; and in William Faulkner's first novel in eight years, *Intruder in the Dust*, a brilliant study of morality and murder. In *The Wild Country* Louis Bromfield returned to his earlier style; in *One Clear Call* Upton Sinclair took his Lanny Budd series through the ninth volume; while George Stewart wrote about a forest fire. Two first novels of unusual promise were *The Lower Part of the Sky* by Lenard Kaufman; and *The Golden Net* by Ruby Redinger, about university faculties.

Outstanding collections of short stories were Robert Penn Warren's *Circus in the Attic*; Peter Taylor's *A Long Fourth*; Willa Cather's posthumous *The Old Beauty and Others*; and Harry Sylvester's *All Our Idols*.

Poetry and Drama. The year marked the advent of no new poet of magnitude, although *The Dispossessed* by John Berryman, and *Terror and Decorum* by P. Vieneck marked the work of two poets of unquestioned promise. Several of the established poets added both to their canons and their reputations, notably Archibald MacLeish with *Active and Other Poems*.

Other prominent poets to publish during the year were Robinson Jeffers with *The Double Axe and Other Poems*; Kenneth Fearing, *Stranger at Coney Island*; Theodore Spencer, *Poems*; Mark Van Doren, *New Poems*; Muriel Rukeyser, *The Green Wave*; Allen Tate, *Poems: 1922-1947*; Richard Eberhart, *Burr Oaks*; Walter Benton, *Never a Greater Need*; Randall Jarrell, *Losses*; *The Cantos of Ezra Pound*, 84 of the projected 100 cantos; Norman MacLeod, *A Man in Midpassage*; and John Peale Bishop, *Collected Poems*, edited by Allen Tate. Wallace Stevens published *Three Academic Pieces*, a critical essay and two illustrative poems. Waldemar Hill edited *The People's Song Book*. American ballads were collected by John A. and Alan Lomax in *Folk Song U.S.A.*

Two noteworthy dramas were published: *Anne of the Thousand Days* by Maxwell Anderson; and *A Streetcar Named Desire* by Tennessee Williams.

Literary Criticism. Two landmarks in criticism were the *Literary History of the United States* in three volumes, a collaboration of many scholars; and the beginning of the American Men of Letters Series with Joseph Wood Krutch's *Henry David Thoreau* and Emery Neff's *Edwin Arlington Robinson*. The year marked also the appearance of *The American College Dictionary* and the second supplement of H. L. Mencken's *The American Language*.

Criticism of individual authors included *Nathaniel Hawthorne* by Randall Stewart; and *Hawthorne: The American Years* by Robert Cantwell, both of which received praise. Brom Weber's *Hart Crane* was perceptive; as was W. G. Rogers' *When You See This Remember Me*, about Gertrude Stein. Leonard Unger compiled T. S. Eliot: *A Selected Critique*. Interpretations of foreign writers

included Richard Ellman's *Yeats: The Man and the Mask*; George Bullett's *George Eliot: Her Life and Her Books*; Eric Bentley's *Bernard Shaw*; and Harold March's much praised *The Two Worlds of Marcel Proust*.

Science. A much discussed and praised work of science that became a best seller was *Sexual Behavior in the Human Male* by Alfred C. Kinsey and others. Conservation was eloquently pleaded by Fairfield Osborne in *Our Plundered Planet*, and by William Vogt in *Road to Survival*. Two books sought to interpret science and human culture: *Man and His Works* by Melville Herskovits and *Science, Servant of Man: A Layman's Primer for the Age of Science* by I. Bernard Cohen. *Race and Nationality* by Henry Pratt Fairchild was a scientific analysis of the various racial groups in the United States.

Philosophy and the Fine Arts. The continued search for a non-authoritarian basis for human values was found in *Life and Morals* by S. J. Holmes and in the highly praised *Man For Himself* by Erich Fromm. *Ideas Have Consequences* by Richard Weaver preached a return to medieval spirituality; *Of Flight and Life* by Charles A. Lindbergh for some modern spirituality. *The Proper Study of Mankind* by Stuart Chase was completely secular in its approach to the social sciences.

Two art forms were interpreted in *An Approach to Modern Painting* by Morris Davidson, and in Sigmund Spaeth's *History of Popular Music in America*. Eric White's *Stravinsky* was an appreciative study. *American Building* by James Marston Fitch showed American architecture as an expression of social forces. (See ENGLISH LITERATURE.)

—ARTHUR E. JENSEN

ANDORRA. A small republic in the Pyrenees between France and Spain, under the joint suzerainty of the French chief executive and the Spanish Bishop of Urgel. Area, 191 square miles. Population, about 6,000. Capital town, Andorra. The language spoken is Catalan. Sheep rearing is the main occupation of the people. A governing body called the council-general consists of 24 members elected for 4 years (12 elected every 2 years). The council-general nominates the First Syndic (President) and Second Syndic (Vice-President).

ANGLO-EGYPTIAN SUDAN. A British-Egyptian condominium in northeast Africa. Area: 969,600 square miles. Population (estimated): 7,498,090, including 41,760 non-natives. Chief towns: Khartoum (capital), 44,950 inhabitants; Omdurman, 116,196; Khartoum North, 91,530; Atbara, 19,757; Port Sudan, 18,554; and El Obied, 17,500.

Production and Trade. Cotton (167,201 short tons of seed cotton produced in 1946-47) and gum arabic (30,928 tons exported in 1946) are the chief export products. Great millet and bulrush millet are the principal grain crops. Other products are sesameum, groundnuts, dates, vegetable ivory, mahogany, ghee, shea nuts, salt (21,101 metric tons in 1946), and gold. Livestock (1944): 20,000 horses, 500,000 asses, 3,195,000 cattle, 4,803,000 sheep, 3,991,000 goats, and 1,109,000 camels. Trade (1946): imports were valued at £E11,467,962 and exports at £E9,267,831, of which cotton accounted for £E4,712,152; and gum arabic for £E1,564,383.

Transportation. At the end of 1946 there were 14,240 miles of roads, 2,001 miles of railway open to traffic, 2,325 route miles of river transport, and regular air service from Khartoum to various points in Africa. There are 35 wireless stations.

Finance. In 1946 revenue amounted to £E8,288,985 and expenditure to £E8,207,802. The budget estimates for 1947 were balanced at £E9,208,880, including a prospective surplus of £E60,539. The Egyptian pound (£E) divisible into 100 piasters, is exchangeable at 97.5 piasters to the pound sterling.

Government. The condominium of the Sudan was created by the Anglo-Egyptian convention of Jan. 19, 1899, and confirmed in the Anglo-Egyptian Treaty of 1936. A governor general heads the administration, which in its lower and middle levels is largely staffed by Sudanese. There are eight provinces, each administered by a governor and each advised by local councils. For details on the changes introduced into the Constitution in 1948, see *Events*. Governor General: Sir Robert Howe (app. April, 1947).

Events, 1948. The Sudan continued to be a stumbling block to the formulation of a new Anglo-Egyptian treaty. Egypt insisted on preserving "the unity of the Nile"—which meant ending the condominium with Great Britain and making the Sudan an integral part of Egypt, with certain rights of autonomy. The British maintained that the existing arrangement should give way only to fuller self-government and eventual independence for the Sudan, if the people of that country should choose it.

The Constitution of the Sudan was generally admitted to be in need of reform. The Egyptian Government itself had been aware of this, and early in the year a conference was planned between British and Egyptian officials to discuss these reforms. A British note accepting an Egyptian suggestion for such a conference was published on February 23. But Egyptian public opinion, stirred up by the press, obliged the Government to reject this proposal early in March.

The Egyptians declared that the scheme was aimed merely at perpetuating British rule in the Sudan. The full reasons for the Egyptian Senate Foreign Affairs Committee's rejection of the draft agreement on the Sudan, signed by the British Ambassador, Sir Ronald Campbell, and Foreign Minister Khushaba Pasha, were discussed in the Senate on June 7. A few days later Khushaba resigned, presumably on this issue.

Meanwhile, the British Government had gone ahead with its intention to draw up a new Constitution. The draft was discussed by the Advisory Council for the Northern Sudan in March. On June 14 the British announced that they were going ahead without the Egyptians. Therefore, five days later, the Governor General, Sir Robert Howe, promulgated the ordinance which provided for the establishment of an Executive Council and Legislative Assembly for the entire Sudan. The terms, largely the result of reconciling the opinions of the Sudanese themselves, may best be described in the words of an editorial in the London *Times* of July 6:

"The pivot of the scheme is a Legislative Assembly broadly representative of the whole country. So diverse are conditions in north and south, and even in different areas inside these main divisions, that no uniform method of election has been found practicable. Of the 65 elected members, 10 are to be directly elected by the more advanced parts of the north, while less developed areas will return 42 members by secret ballot through a system of electoral colleges, in the composition of which direct election, however, plays an important part. In the relatively backward south, 13 members are to be chosen by the councils of the three provinces

of Equatoria, Upper Nile, and Bahr el Ghazal. The legislature, which will enjoy extensive powers, is linked to the executive by its right to elect a Leader, who will himself be a Minister and whose views the Governor General will consider, in appointing other Ministers, all of whom must be non-official Sudanese.

"The Ministers, together with under-secretaries—also Sudanese—whom the Governor General will appoint after consulting the Leader of the Assembly, will form the main Sudanese element on the Executive Council, which is to be collectively responsible to the Governor General for the administration. At least half its members must be Sudanese, but the Governor General is empowered to nominate up to 3 ordinary and up to 4 ex-officio members. He retains certain powers in his own hands, but it is plainly intended that they shall be exercised mainly to safeguard the working of the Constitution and to deal with such matters as foreign relations which are for the present outside the competence of the legislature.

"The new scheme seems well fitted to give the Sudanese people the opportunity of showing their capacity to manage their own affairs, while providing against any major disasters which might arise from administrative inexperience."

The elections took place on November 15, not without violence and some loss of life. The political group favorable to union with Egypt—the Ashigga Party—boycotted the voting and its demonstrations in various towns resulted in the arrest of several hundred persons. It also organized a general strike, fairly effective at Port Sudan.

In the 10 urban constituencies, only 7 to 34 percent of the voters went to the polls. The indirect system of voting was used in the 28 rural constituencies, and here from one third to three quarters of the electorate participated. Due to the boycott, practically all of the elective seats went to the Independence, or Umma Party, led by El Sayed Sir Abdel Rahman el Mahdi Pasha. There still remained 25 members to be named by the British administration. An aftermath of the violence accompanying the elections was the trial of pro-Egyptian political leaders in the Sudan. The British authorities refused to let them be defended by lawyers from Egypt. This led to student riots in Egyptian cities in which on November 28 two were killed.

—ROBERT GALE WOOLBERT

ANGOLA (Portuguese West Africa). The largest colony in the Portuguese empire, extending for some 1,000 miles along the south-west coast of Africa. Area, 481,351 square miles. Population (1940 census), 3,738,010, of whom 44,083 were Europeans and 28,805 half-castes. The Negro population is predominantly of Bantu stock and tribal in character. Chief towns: São Paulo de Loando (capital, pop. 62,000), Lobito, Malange, and the future capital, Nova Lisboa. Educational facilities are limited to 161 primary schools with 10,408 pupils and 12 secondary schools with 1,602 pupils.

Production. Principal crops in 1946 were coffee (883,100 bags of 60 kilos), maize, sugar, palm oil and kernels, cotton, wheat, tobacco, cocoa, and sisal. Minerals include valuable diamond deposits. Copper and lignite exist but are not exploited. Chief exports are coffee (774,751 bags in 1946), diamonds, sugar, wax, and coconut, while imports consist mainly of foodstuffs, textiles, and coal.

Foreign Trade, etc. The 1946 imports totaled 799,532,000 escudos; exports 962,251,000 escudos. Revenue for the year 1946 was placed at 525,827,000 escudos; expenditure, 482,173,000 escudos.

Transportation. A total of 1,442 miles of railway is open to traffic. The Benguela railway runs from the Atlantic Ocean to the border of Belgian Congo and continues to the east coast. There are 21,772 miles of good roads. Angola is connected with the Belgian Congo and Equatorial Africa by air. In 1946 a total of 446 vessels of 628,067 tons entered Angola ports.

Government. By a 1946 decree the country is divided into five provinces and sixteen administrative districts. Administration of the colony is headed by a governor-general assisted by an advisory council composed of appointed and elective representatives from among the European inhabitants. Governor-general: Captain Silva Carvalho.

ANTHROPOLOGY. The year 1948 marked the continued growth of anthropology in all its phases and branches, most notably in the United States, but in significant degree elsewhere as well. At the opening of the fall term eighty universities and colleges in the United States were offering courses in anthropology leading to the bachelor of arts degree, either as independent departments or combined with one or another of the social sciences. Of these eighty institutions, eighteen have staff and other facilities that warrant the granting of master of arts and doctor of philosophy degrees in anthropology. This expansion, which represents an over-all increase of several hundred percent during the past three years, answers an increased general interest in anthropological concepts and methodologies and an increasing employment of trained anthropologists in various social research programs, in numerous state and national government departments, bureaus, and services, as well as on university and college staffs. No comparable data is available for European nations, though it is known that systematic instruction and research has been variously established, re-created or expanded in universities and museums in France, Italy, Austria, Poland, Germany, England, Scotland, Norway, and Sweden. In Latin America the same trend is observable, most notably in Mexico, Colombia, Peru, Venezuela, and Brazil, though on a somewhat more limited scale.

During 1948 a third and much more comprehensive International Directory of Anthropologists was gotten under way. This enterprise is being carried out under the auspices of the National Research Council, through its Committee on International Cooperation in Anthropology, and will probably be completed and in print by the end of 1949.

Organizations. The Third International Congress of Anthropological and Ethnological Sciences was successfully held in Brussels, August 15 to 23, inclusive. About 500 persons were in attendance from most European countries, the United States, and a number of nations and colonies in Latin America, Africa, the Near East, and Asia. The program consisted of special exhibitions of archaeological and ethnological collections and of about 150 papers devoted to various topics in all branches of anthropology.

The American Anthropological Association has continued to grow in membership and in its effectiveness as a professional organization. Two new classes of membership were instituted during the year: Foreign Fellows and Liaison Fellows. The former gives recognition to anthropologists in countries other than Canada and the United States who are of professional status; the latter gives recognition to outstanding scholars in other disciplines who share interests with anthropologists in certain problems. A Western States Branch of the Associa-

tion was formed during the year, thus making a total of six local and regional affiliated and derivative organizations in the Association. The annual meeting of the Association was held in Toronto, Canada, Dec. 28 to 30, 1948, and had about 300 persons in attendance. The Association undertook to be host organization to the 29th International Congress of Americanists, to be convened in New York in September, 1949, an undertaking made possible by a substantial grant from the Viking Fund.

Publications. The growing academic interest in anthropology is exemplified by the publication of four general textbooks during the year: C. S. Coon, *A Reader in General Anthropology* (Holt); John Gillin, *The Ways of Men* (Appleton-Century); Melville J. Herskovits, *Man and His Works* (Knopf); and A. L. Kroeber, *Anthropology* (Harcourt, Brace). Among the many monographs and specialized studies to appear during the year, of special note are volumes 3 and 4 of the *Handbook of South American Indians* (Bureau of American Ethnology, Bulletin 143) to which a large number of specialists have contributed. The rapidly developing interdisciplinary field of studies in personality and culture was graced with the appearance of Clyde Kluckhohn and Henry A. Murray (eds.) *Personality in Nature, Society and Culture* (Knopf). Other representative titles during 1948 are: in human paleontology and development of races, R. Ruggles Gates, *Human Ancestry* (Harvard); in the field of religion in nonliterate societies, William Howells, *The Heathens: Primitive Man and His Religions* (Doubleday); and in social anthropology, Robert H. Lowie, *Social Organization* (Rinehart).

Exchanges. An increased number of exchanges among students and researchers were effected during the year under the auspices of various universities, foundations and governments. Thus, Drs. Hilda Kuper and Audrey I. Richards, respectively of Johannesburg (S. Africa) and London, have been visiting professors at the University of North Carolina. Professor I. Schapera, of Capetown, S. Africa, was a visitor to the University of Chicago, and Prof. Emilio Willerns, of São Paulo, Brazil, was among the participating faculty in the Institute for Brazilian Studies at Vanderbilt University during the summer months.

The Conference Board of Associated Research Councils, Washington, D.C., has undertaken the processing of applications for the exchange of professors, specialists and research scholars under the Fulbright Act. Similar exchanges of students are being handled through the Institute of International Education. At both levels, anthropology and anthropologists will benefit as more agreements are made with various nations in accordance with the terms of this act.

The Institute of Social Anthropology of the Smithsonian Institution sponsored a visit to the United States of Señor Luis Duque Gomez, director of the Ethnological Institute, Bogotá, Colombia, with the purpose both of stimulating field work in Colombia and encouraging a greater exchange of museum specimens.

D. B. Stout, under the auspices of the Viking Fund, spent the summer months in Sweden on a mission to increase the collaboration between Swedish and American anthropologists through exchanges and the encouragement of joint research projects.

Though the outlook for the international exchange of anthropologists has improved during the year, the exchange of books and periodicals in the

field of anthropology is still seriously hampered by controlled currencies in many nations and the lack of dollar credits. To date no entirely satisfactory means of overcoming this difficulty has been devised.

Physical Anthropology. Warfare and political unrest have continued to block further search for fossil evidences of human evolution in eastern Asia and Indonesia, though the materials already at hand from these areas give promise that important discoveries will be made here when conditions permit. In South Africa further information has been published by Professor Raymond A. Dart concerning *Australopithecus prometheus*, noted in the previous Year Book. This fossil form is now regarded as having had a brain capacity of about 650 cc., though in body size it was of pygmyoid stature and delicately proportioned. The use of fire seems clearly established (hence the species name), and as a fire-using proto-human *prometheus* is interpreted, on geological evidence, as antedating the previously known earliest user of fire (*Sinanthropus pekinensis*) by from 300,000 to 500,000 years. At the end of 1948 announcement was made of the discovery, also in South Africa near Johannesburg, by Dr. Robert Broom, of the greater part of a massive fossil jaw containing teeth which indicate a giant humanoid believed to be larger than the giant forms of Java man (*Meganthropus palaeojavanicus*). This discovery has been named "Swartkrans Man," and will, no doubt, be given a binomial classification in the near future.

The third Summer Seminar in Physical Anthropology was held June 20 to 30 at the Viking Fund, with somewhat wider international representation than previously. Among the outstanding authorities in attendance was Dr. W. E. Le Gros Clark, of Oxford University.

Archaeology. The most extensive field activity was carried out in the United States, mainly along rivers where inundation of thousands of important Indian sites is imminent as a result of nationwide Federal river development programs. The scientific aspects of this work are under the direction of the Smithsonian Institution, but with assistance from several other government agencies and services and in cooperation with various research councils, universities, and museums.

Other major archaeological expeditions were undertaken during the year by Harvard University to the Aleutians, by the National Museum, Denmark, and the University of Alaska to the Norton Sound area of Alaska, and by the Peabody Foundation for Archaeology, Andover, Mass., to the Yukon area. It is noteworthy in all these archaeological investigations that the expedition personnel included botanists, geologists, physical anthropologists and other specialists whose techniques enable more precise archaeological field activity.

Systematic cooperation with physicists was begun during the year by archaeologists on the matter of possibly dating archaeological specimens through the measurement of the radioactive Carbon 14 content in them. To date, results are inconclusive as to extent of usefulness of this procedure.

Cultural Anthropology. The Institute of Social Anthropology in the Smithsonian Institution continued its program of field research in Mexico, Peru, and Brazil in collaboration with local ethnologists. The study of acculturation processes in Negro communities in the New World, mainly by investigators trained at Northwestern University, has continued to grow during the year and now include researches in Honduras, Cuba, Haiti and Brazil. In addition, many universities, museums,

and foundations supported smaller field researches of shorter duration in various places in the New World. Field expeditions in ethnology of international scope, other than those limited to American nations, are still relatively few in number, however, because of political difficulties and the restrictions on monetary exchanges. The University of California African Expedition, southern section, included extensive field researches among the tribes of northern Southwest Africa, under the direction of Dr. Edwin M. Loeb. Professor R. L. Sharp, of Cornell University, departed for extended community researches in Siam.

Interdisciplinary Developments. Area programs, noted in the previous YEAR BOOK, EVENTS of 1947, have remained the most prominent development wherein specialists in the various branches of anthropology are teamed up with other social scientists and with natural scientists in the joint attack on large-scale problems through field study and analysis. Anthropologists have played an important role in the design, pursuit and assessment of such programs and have been the recipients of a number of research and travel grants from several foundations supporting area research. Further planning was carried out during the year for the establishment of an International Institute of the Hylean Amazon, sponsored by UNESCO, in which ethnologists would be participants.

Prizes and Awards. The Viking Fund Medals and Awards for 1947 (announced at the end of 1947 and early in 1948) were awarded to John. O. Brew (archaeology); E. A. Hooton (physical anthropology); and Robert H. Lowie (cultural anthropology). The Loubat Prize, awarded quinquennially in the United States by Columbia University and in Scandinavia by the Swedish Royal Academy of Letters, History and Antiquities, was granted in 1948 to Dr. Stig Rydén, of the Ethnographical Museum, Gothenburg, Sweden, for his many contributions to South American Indian archaeology. Dr. Manuel Gamio, one of Mexico's foremost anthropologists, was awarded an honorary Doctor of Letters degree by Columbia University.

Necrology. The ranks of anthropology were seriously depleted during 1948 through the deaths of Ruth Benedict, author of the milestone publication *Patterns of Culture*, of Sylvanus G. Morley, world-renowned specialist in Maya archaeology, and Franz Weidenreich, authority on human paleontology and proponent of the hypothesis that human evolution included giant forms.—D. B. STOUT

ANTITRUST DIVISION. A Division of the U.S. Department of Justice charged with the enforcement of the antitrust and 30 kindred acts. The Division receives complaints and, in cooperation with the Federal Bureau of Investigation, conducts investigations which, where appropriate, lead to criminal prosecutions or suits in equity designed to break up monopolies, and attempts to monopolize, restraints of trade, such as conspiracies to fix prices, allocate territories, engage in exclusive dealing arrangements and other illegal practices including unlawful cartel agreements with foreign corporations, and restrictive patent arrangements.

The Division has, as a result of increased appropriation, expanded its staff, including its offices located at Boston, Chicago, Denver, Los Angeles, New York City, San Francisco, and Seattle. It has opened new offices at Cleveland, Detroit, Jacksonville, Philadelphia, and Kansas City, Kans. These offices receive complaints from the public, institute investigations, and prosecute antitrust cases. The Small Business Section of the Division receives

complaints and appeals for help from small business concerns throughout the country and, when justified, represents their interests in their dealings with both larger private business concerns and Government agencies. If the investigation indicates a violation of the antitrust laws, this Section recommends appropriate action by the Division. Assistant Attorney General in charge: Herbert A. Bergson.

AQUEDUCTS. A relatively new development in aqueduct construction is pre-stressed reinforced concrete pipe. A 78-mile line, consisting of 48 miles of 48-inch pipe, 27 miles of 36-inch pipe, and 3 miles of 24-inch pipe (all of this special construction), was completed this year. It extends from Lake Huron to a filtration plant at Saginaw, Mich., and to one at Midland. The pipes were precast in 16-foot lengths, shipped to the job in trucks and then lowered into the trench. The pipe consists of an interior concrete core, a thin steel cylinder outside of this formed from flat sheets all welded on the job, and then outside of this, pre-stressed high tensile wire embedded in a rich covering of cement mortar. Vibration of the concrete and steam curing of cement mortar are essential features of the casting operation. Ten pipe-laying crews worked simultaneously in placing the pipe. Joints were sealed with solid rubber gaskets inserted in grooves provided in the galvanized steel joint rings at the spigot end of the pipe. The project cost \$12 million. A 2-mile length of 66-inch steel pipe extends from the shore to a crib out in Lake Huron to constitute the intake to the pipe line. Its capacity is 100 million gallons per day.

Another pipe line of the same type of construction has been built this year for Montreal, Canada. It is an 84-inch diameter intake, 9,500 ft. long, receiving water from the St. Lawrence River, and extends 2,000 ft. out into the river from the shore. The pipes were precast in 18-foot lengths. Economy in the use of steel is made possible by this type of construction.

One of the great undertakings for transporting water now under way in this country is the Colorado-Big Thompson Project for diverting 310,000 acre feet of water annually from the western to the eastern slope of the continental divide through a 13-mile tunnel. The water will be pumped 187 feet vertically through three conduits 87 inches in diameter.

Another noteworthy water supply project under construction this year is the Second Mokelumne Aqueduct in northern California that will ultimately increase the system to 200 million gallons per day of water from the Sierra Nevada to the East Bay Municipal Utility District, east of San Francisco. The work now under way consists of the installation of a new steel pipe line. To finance the work, \$12 million was provided by a bond issue. The total cost is estimated to be \$21.7 million. The new line follows closely an earlier plan which called for the progressive installation of booster pumps or of parallel lines to increase flow as the demand for water should increase.

The first step was the installation of 6,100 ft. of 60-inch steel pipe, $\frac{5}{8}$ -inch thick, which was war surplus material originally intended for Manila. The remaining portion of the line will be of 67- and 68-inch diameter steel pipe. All joints on the new line are to be welded; in the old line the field joints were riveted. Bids showed steel to be cheaper than concrete. The shell varies in thickness from $\frac{7}{8}$ to $\frac{1}{2}$ inch. It is lined with spun-cement mortar and covered with $\frac{3}{4}$ -inch pre-stressed wire which

in turn is sprayed with a mortar coating $\frac{3}{4}$ -inch thick.

Preliminary work has been begun on a \$5 million tunnel project in the Pacific Gas Company's \$61 million Feather River hydroelectric development. It will be of a 26-foot horseshoe section 17,800 ft. length, to be driven through solid granite, and will be completed in 1949.

The San Diego Aqueduct, built by the Bureau of Reclamation, was completed just before the beginning of 1948 and has been operated successfully. Minor difficulties with small fish interfering with air relief valves have been experienced and corrected. The 7 tunnels along the line were designed to carry 100 million gallons per day, which is the full allocation of water to the city from the Colorado River supply. The aqueduct consists of 149,142 feet of 48-inch reinforced concrete pipe; 115,088 feet of 54-inch; 64,028 feet of 72-inch; and 9,840 feet of 96-inch reinforced concrete pipe. The tunnels vary in length from 500 feet to over a mile.

It is interesting to note that wood pipe is still being used. A contract has been let for 3,600 feet of 36-inch pipe for St. John, N.B. This year, the 40-ft. diameter diversion tunnel, which is 2,150 ft. long, at Downsview Dam on the Delaware Water Supply System for New York City was holed through.

Among the other aqueducts under construction in 1948, the following are of interest: The Central Valley Project in California, by the Bureau of Reclamation, for which \$41.4 million has been appropriated by Congress, included the Friant-Kern and Delta-Mendota canals, construction of which was to be pushed this year. The total length of the former will be 153 miles, and of the latter, 120 miles. Also the Bureau has under consideration the Santa Barbara project, to include a 6-mile tunnel and a 20-mile conduit. The city of Baltimore has advertised for bids for a 10-foot diameter water tunnel, 10 miles long.

A \$1.62 million contract for completion of the Salt Lake Aqueduct has been let for the Metropolitan Water Board of Salt Lake City. It calls for the installation of $7\frac{1}{2}$ miles of 69-inch concrete pipe. The fully completed line will be 40 miles long and will carry water from a pumping station in Provo Canyon to Salt Lake City. —W. E. HOWLAND

ARABIA. A large peninsula in southwestern Asia. Area, approximately 1,000,000 sq. mi.; population, upwards of 10,000,000. The political subdivisions are Aden, Aden Protectorate, Bahrein (Bahrain), Kuwait (Koweit), Muscat and Oman, Qatar, Saudi Arabia, Trucial Oman, and Yemen. (See the separate article on each country.) Other countries in the Middle East with Arab-speaking populations, but not included under the heading "Arabia," are Egypt, Iraq, Lebanon, Palestine, Syria and Transjordan. The various parts of Arabia may be divided into two broad political categories: independent states, and territories under British sovereignty, protection or influence.

They are all inhabited by almost solidly Moslem populations, though of diverse sects. The ancient Arab stock, still overwhelmingly predominant in the interior, has been diluted with African, Indian, Iranian and other elements along the coasts. Education is still largely religious in nature and confined to males, except where British or missionary influence has been felt. Economically the region is probably on the threshold of a renaissance due to the billions of barrels of oil in its subsoil, now in process of exploitation.

ARAB LEAGUE AFFAIRS. The Arab League, representing Egypt, Syria, Lebanon, Iraq, Transjordan, Saudi Arabia, and Yemen, was organized in 1945. In the face of expanding Zionist ambitions, the League aimed to strengthen relations between member states, coordinate their policies, and safeguard their independence. At first the Palestine war inspired coordinated League action, distinctly raising its prestige in the Arab world, thanks to genuine Arab fear not only of a limited Zionist state, but also of further Zionist expansionist pressure. The latter fear was fanned by large scale Jewish immigration and the belligerent statements of Zionist supporters.

The League's legal argument for armed intervention was: United Nations jurisdiction was limited to helping transfer government from the departing British mandate to a state based on the wishes of the majority in Palestine. The Arabs could not accept as binding the two-thirds Assembly vote for partition which to them was UN tyranny. The League considered that since partition and the resulting creation of a Zionist state were unlawful, its members had to defend the right of Palestine's majority to establish a unified democratic state.

As ire mounted against the United States and the Soviet Union, both of which had actively campaigned for partition, demonstrations broke out in the Arab countries. Particularly difficult was the position of those Arabs who had supported the United States; for them the American support of what all Arabs considered another form of Western imperialism was incredible, particularly in the light of American unwillingness to accept refugees itself. Moderates were forced to agree with extremists that no compromise was possible.

A secret League Council meeting to discuss action was followed by a series of conferences both of League representatives as a whole and various leaders separately. Stern statements were issued and fighting flared up in Palestine in spite of British efforts to maintain peace. Yet, the League Secretary General, Azzam Pasha, commenting on a March switch in the American position toward trusteeship, said that the Arabs would accept a truce if the Jews did likewise. A Beirut meeting in March ended with a decision to insist on British proposals for a temporary trusteeship, a democratic government guaranteeing minority rights to Jews and acceptance into Arab countries of Jews then detained in Cyprus.

But military events and UN debates ground on. The American return to support of partition and President Truman's precipitate recognition of Israel while the American delegation was discussing a UN truce proposal confirmed earlier Arab suspicions of American foreign policy aims.

Even while attempts were being made to present a unified front, undercurrents of conflict developed, both between Arab countries and within them. A May report indicated King Abdullah of Transjordan and Syrian President Shukri al-Kuwatli met to relieve the strain in their relations caused by Abdullah's espousal of the "Greater Syria" plan envisaging a combination of Syria, Lebanon, Iraq, Transjordan, and Palestine, presumably under Abdullah. With the establishment of Israel in May the Arab League, and government representatives in it, faced a loss of prestige among their own people, which meant a setback for the moderate, Western-educated leadership, thereby contributing to the size and influence of the extremist pan-Islamic Moslem Brotherhood.

Meanwhile the various countries took economic

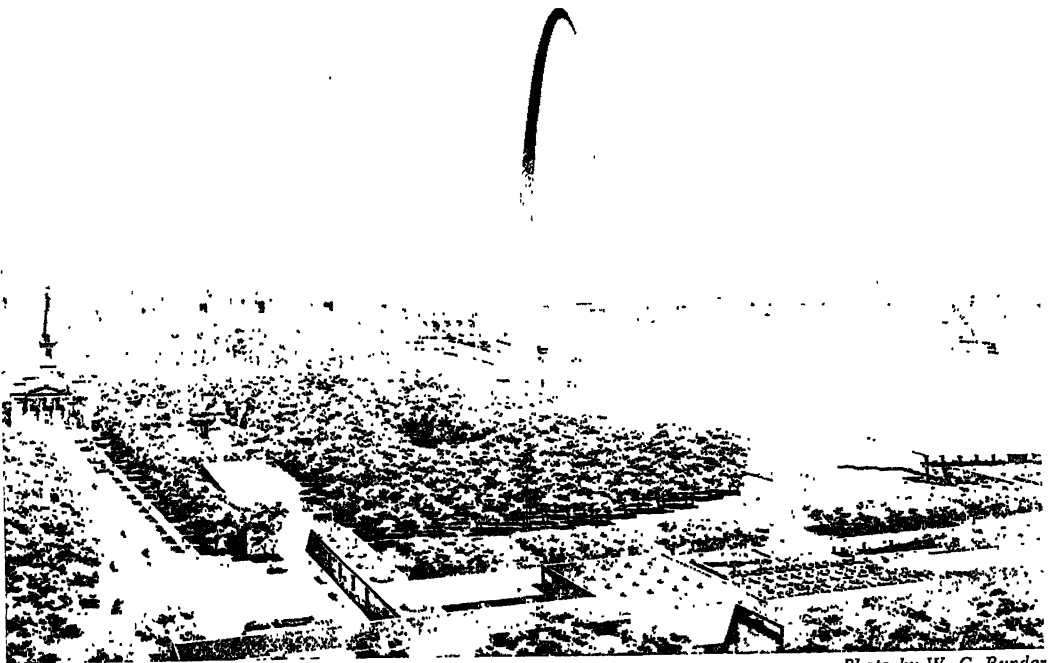


Photo by W. C. Runder

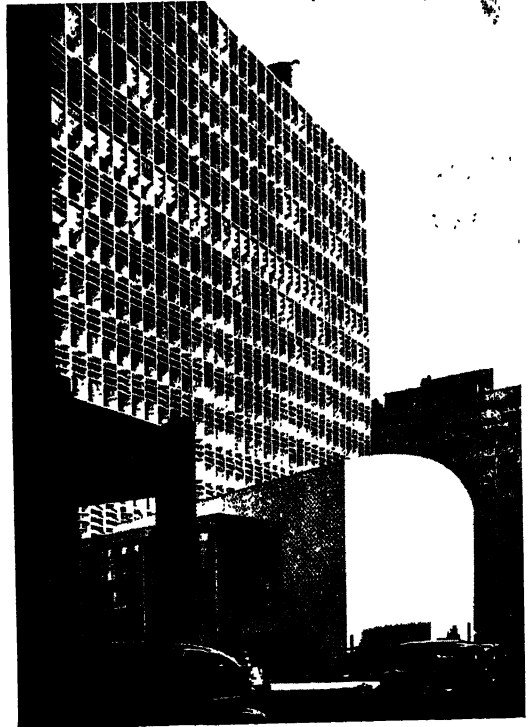
JEFFERSON MEMORIAL IN ST. LOUIS. Saarinen, Saarinen and Associates were awarded the first prize of \$40,000 for their design (shown above) in the Jefferson National Expansion Memorial Competition. The outstanding feature is a proposed 55-ft. high arch of stainless steel, symbolizing the "gateway to the West."

EXTERIOR of the Terrace Plaza Hotel, Cincinnati (Reproduced from the October 1948 issue of *Fortune* magazine by special permission of the Editors; Copyright Time, Inc.).



MINISTRY OF EDUCATION BUILDING in Rio de Janeiro, Brazil. An excellent example of the modern style of architecture.

European

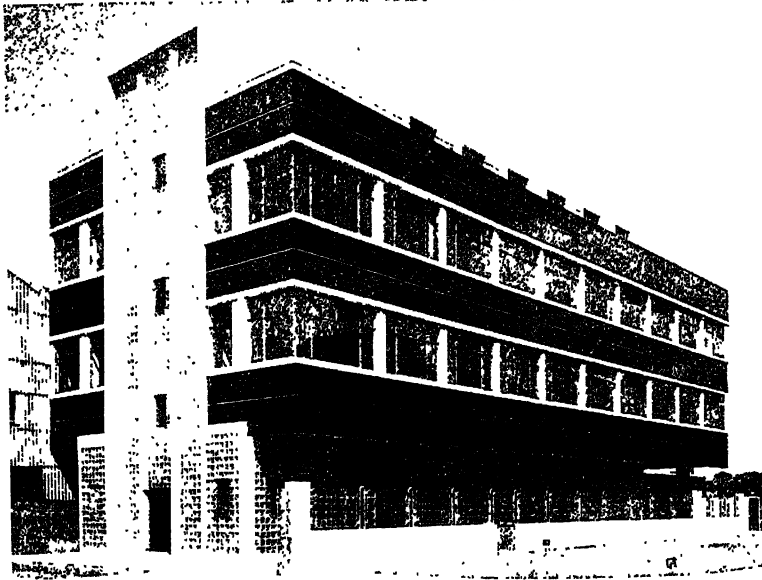




LIVING ROOM interior of a house in the Berkshires, near Williamstown, Mass., for an outdoors-loving couple, designed by Marcel Breuer (Photo by Damora from *House and Garden*, Copyright 1949, The Condé Nast Publications, Inc.).



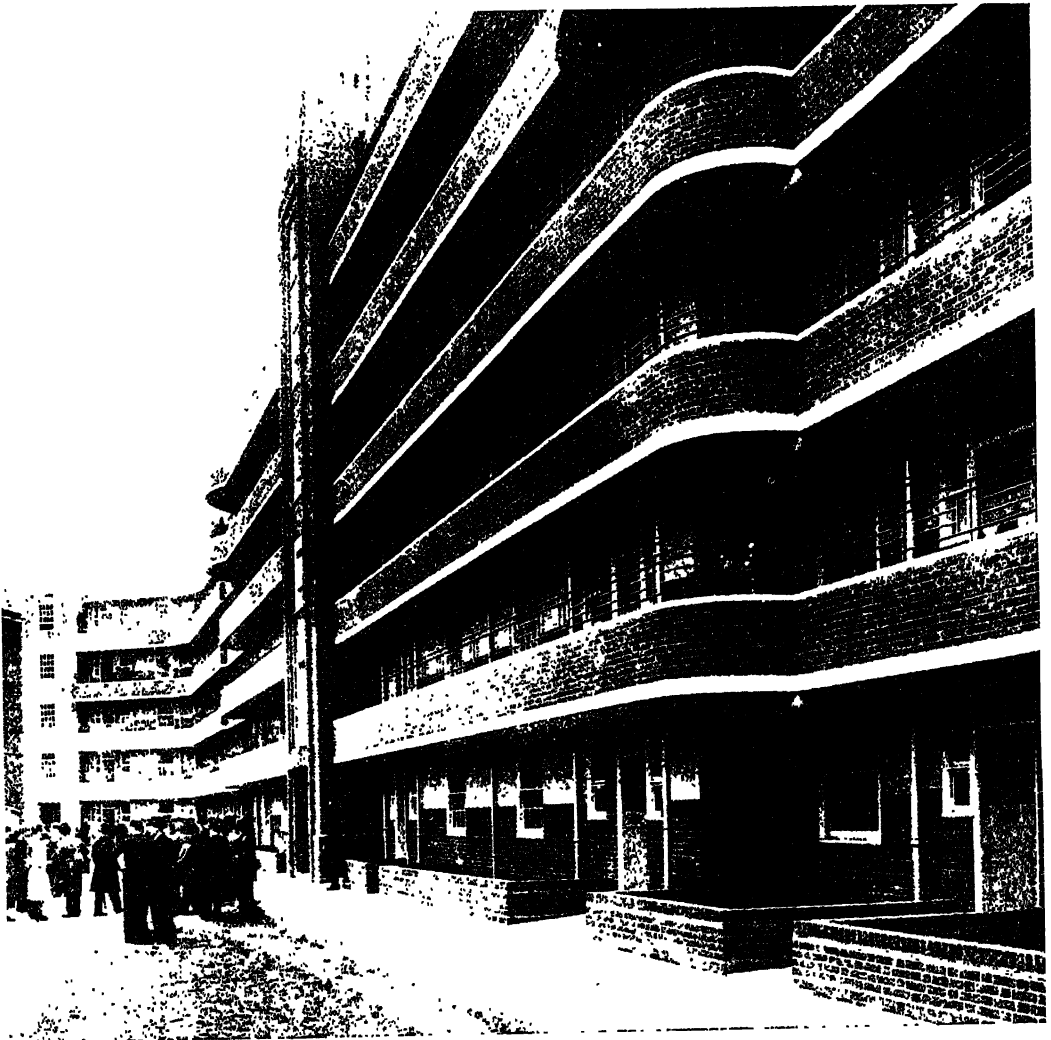
INTERIOR view of the dining room in the Terrace Plaza Hotel in Cincinnati, Ohio, showing the Steinberg mural (Reproduced from the October 1948 issue of *Fortune* magazine by special permission of the Editors; Copyright Time, Inc.).

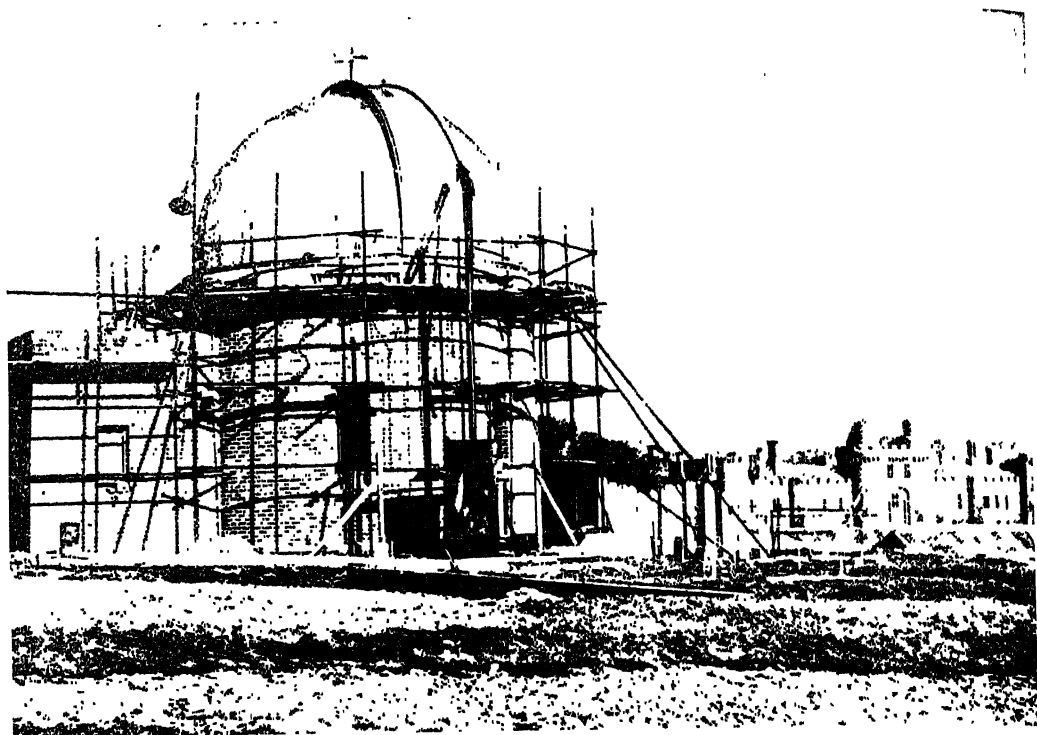


OFFICE BUILDING at Thornliebank, near Glasgow, Scotland. Glass bricks are used right up the side of the building to admit light to the length of the staircase.

RIVERSIDE APARTMENTS in Hammersmith, London, England. Photograph shows the rear view of the new all-electric apartment building.

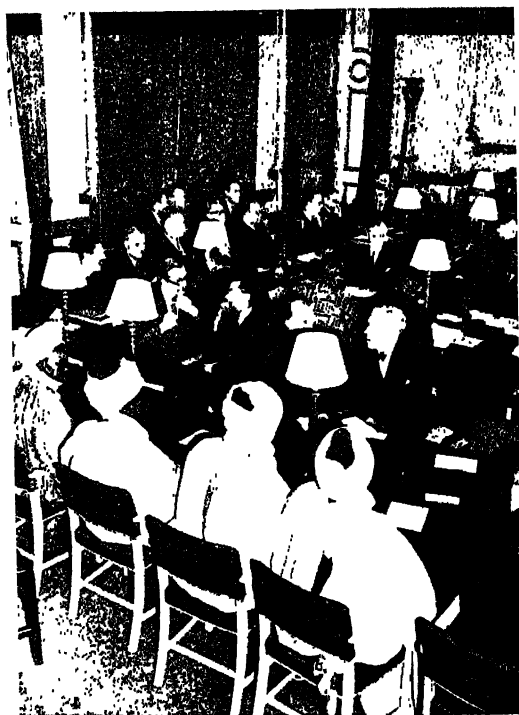
British Information Services





British Information Services

GREENWICH OBSERVATORY is to have a new home beside Hurstmonceau Castle in Sussex, England. The world-recognized Greenwich mean time will still be based on the zero meridian on which the old observatory has been situated.



British Information Services

AFRICAN COLONIAL CONFERENCE, attended by about 60 African Chiefs, opened at the Conference Hall in London, England. The Chiefs planned to stay for two months.



European Photo

PARADOGS AID IN ALASKA RESCUE. Eskimo huskies are trained to bring help to isolated airmen. The paralog has just been dropped from the cabin of the rescue plane.

steps on their own. Egypt warned all shipping to stay out of territorial waters along a 20-mile coastal strip of southern Palestine. Iraq cut off oil through the pipeline ending at Haifa (under Zionist control); its Director General of Economics said Iraq would only resume pumping if the refinery were placed under international control. An Anglo-American-French request to reopen was refused on December 27 until "the Arabs' just demands are met." Shortly after the UN partition resolution, the Arabian-American Oil Company had announced that work on its pipeline from Saudi Arabia had been temporarily stopped because of the attitude in Transjordan, Syria, and Lebanon on the UN vote.



THE ARAB LEAGUE AND ITS NEIGHBORS

In January, Syria's President said Arab League policy would determine whether the pipeline's right of way through Syria would be granted. After the League's decision that no American companies should be permitted to lay pipelines across member states until the United States had changed its Palestine policy, Syria refused. But by year's end the wavering front was reflected in two developments: (1) the report that a special committee of experts from Egypt's Ministry of Commerce and Industry had recommended establishing a Suez oil refinery in cooperation with American oil companies, and the resumption of talks for terminating the Saudi Arabian pipeline at an Egyptian port; and (2) a November meeting of Syrian and Lebanese leaders to reconsider the earlier pipeline decision.

The latent conflicts crystallized with the League announcement on September 20 of the formation of an Arab Government for Palestine with headquarters at Gaza. Transjordan's King Abdullah informed the League he would not recognize the formation of a government "within the security zone of the Transjordan Government, which extends from the Egyptian kingdom's frontiers to the frontiers of Syria and Lebanon." Nevertheless,

the Gaza Government's Prime Minister telegraphed the League that "the inhabitants of Palestine, in the exercise of their right to determine their own fate and in accordance with the decisions of the Arab League Political Committee, have decided to declare all Palestine . . . an independent state . . . based on democratic principles."

An 11-man Cabinet was announced and an October 1 meeting of the Assembly elected the Mufti, Haj Amin al-Husseini, its President. By the middle of October Syria, Lebanon, Iraq, and Egypt had recognized the Gaza Government. But not Transjordan. Abdullah appointed Omar Mattar Governor General of Palestine areas held by Transjordan's effective Arab Legion, and demanded dissolution of the Government at Gaza. He said he was "determined to bring peace to the Arabs of Palestine and to avoid . . . disagreement among the Arab nations." A week later the head of Transjordan's delegation to the League meeting in Cairo denied a rumor that Transjordan would make a separate peace with Israel.

A December 1 meeting in Jericho, of mayors of nearly all Arab-held towns, resolved to declare Palestine and Transjordan "an indivisible whole" with Abdullah as king. An electoral law was also drafted. Although the Transjordan Cabinet consented to Abdullah's accepting the crown, he did not commit himself. Nevertheless the verbal storm descended on him and the League warned that it would take "serious action" against him unless he abandoned the plan.

Iraq remained neutral in the debate, possibly because of close ties with Transjordan through the common Hashimite family rule. Abdullah's Palestine supporters, taunting the others with failure to support the Palestine Arab cause effectively on the battle field, said that the Gaza Government represented 80 people and their group 1/10 of the Palestine Arabs. While the original Mufti, Haj Amin al-Husseini, continued to guide Gaza affairs Abdullah took it upon himself to appoint another Mufti.

Although Britain's Foreign Minister Ernest Bevin had supported plans for unifying Transjordan and Arab Palestine (as originally proposed by UN Mediator Count Bernadotte), the League split was embarrassing to Britain since her relations with neighboring Iraq and Egypt were equally important and delicate. While heated Arab words were exchanged, popular dissatisfaction with the Palestine outcome exploded in a succession of serious demonstrations in the various countries.

The Palestine conflagration pushed down to the bottom of the League's agenda, matters of concern such as the status of Arab North Africa, the future of Libya, and the Dutch invasion of Indonesia. But League policies were supported in varying degrees at meetings of the UN and its constituent organizations by sympathetic Moslem states including Iran, Afghanistan, and Pakistan.

The various measures of coordination in commercial exchange proposed by the League's Economic Committee contributed to the growth of interregional trade. The League supported in principle the formation of a UN Middle East Economic Commission; a UN Economic Affairs Department report having included a Middle East survey stressing the awakening interest of those nations in economic advancement. The agricultural officials from all Arab states participated in UN Food and Agriculture Organization conferences, considering unified programs for increasing Middle East food production (see also PALESTINE and individual countries).

—DOROTHEA SEELYE FRANK

ARCHAEOLOGY. During 1948 archaeological activities were continued in most parts of the world. Excavations were conducted largely by local authorities, but there were a number of foreign expeditions, on a less lavish scale than before the war. The effect of the past war is shown by the fact that many of the discoveries in Europe are a direct result of repairs being made following wartime damage.

India. Commercial relations between the east coast of India and the Mediterranean at the beginning of the Christian era are suggested by recent discoveries at Sisupalgarh 2 miles east of Bhubaneswar. A fortified site, which may be the ancient Kalinganagara, capital of the emperor Kharvela, has yielded one type of pottery showing Roman motives and clay bullae reminiscent of Roman coinage of ancient times. (*Archaeological Newsletter*, No. 10.)

Iraq. Discoveries of revolutionary importance for our knowledge of Mesopotamian prehistory continue to be made at Eridu where a second campaign took place last winter. The site of the seven successive predynastic temples reported last year was excavated down to bedrock, and a shrine located for each of its sixteen strata. In the lowest appeared a miniature shrine about 4 m. square already incorporating all the main features of later Sumerian temples, such as a niche-recessed altar and a central offering table with traces of burnt offerings. Associated with this temple of the 5th millennium B.C. and the lower strata is a new type of pottery, slightly resembling the Tell Halaf and Samarra pottery of northern Mesopotamia. This proves that the Ubaid people were not the earliest arrivals in southern Iraq, as was previously thought, but so far no traces of this new culture have been found on any other Sumerian sites, and thus Eridu's claim to high antiquity seems confirmed. In addition to the temple site, a cemetery containing over 1,000 graves of the Al'Ubaid period was partially excavated. These early 4th-millennium graves are rectangular, constructed of sun-dried bricks, and contain the usual pottery, as well as such unique offerings as a clay model of a sailing boat, a 6-inch fringe of black and white beads adorning a woman's skirt, and the skeleton of a pet dog buried with his youthful owner and provided with a meat-bone for the afterworld. (*Illustrated London News*, Sept. 11, 1948.)

The remnants of a new law code about 200 years older than the famed Hammurabi code have been discovered this past winter among the 2,500-3,000 cuneiform tablets from Tell Harmal, a fortified site near Baghdad, being excavated by the Department of Antiquities. This new code of ca. 1900 B.C. is in Old Babylonian; another, in Sumerian, of ca. 1800 B.C. has recently been reported by Kramer of the University of Pennsylvania. We thus now have valuable information as to two probable sources for the codification of Hammurabi.

Egypt. At Helwan, the Early Dynastic cemetery across the Nile from Sakkarah, the 6th campaign financed by King Farouk I, was undertaken last winter. More than 5,000 tombs have already been opened, containing the usual inventory of stone vases, jewelry, flint knives, and ivory statuettes comparable to those from Abydos, including a particularly fine one of a kneeling hunchback. Exact chronology is furnished by mud jar-stoppers with impressions of royal seals, one being that of Den, fifth king of the 1st Dynasty. This site has necessitated a revision of the opinion that stone archi-

tecture did not originate until the 3rd Dynasty, for several tombs use cut stone for the facing and flooring of underground chambers. The remarkable preservation of flax cloth and human hair, of assorted colors, is noteworthy. (*ILN*, June 5, 1948.)

Work was resumed last winter at Amarah in the Anglo-Egyptian Sudan. This seat of the deputy of Kush in Ramesside times is unique among the towns of Pharaonic Egypt because of its excellent preservation, buried under sand. In addition to the temple of Rameses II discovered before the war, the town itself is being excavated and its history recovered from inscriptions in the governor's palace. The site was relatively short lived (from ca. 1306-1080 B.C.) and shows three building periods with a later reoccupation as a poor fishing village. Its importance was due partly to its strategic location on an island where it could control both river and land travel, and partly to the exploitation of gold mines in the desert. The abrupt abandonment of the site was apparently caused by the silting up of the river channel which made Amarah part of the mainland and subject to violent north winds and sandstorms. (*ILN*, April 17, 1948.)

Palestine. The Christmas issue of *Life* (Dec. 22, 1947) reported pictorially what may be the earliest evidence for Christianity. A chamber tomb of the 1st century B.C. to the 1st century A.D. was discovered in 1945 close to the Jerusalem-Bethlehem road, and its 14 ossuaries have since been the object of study by E. L. Sukenik. Ten of them are conventional, but four suggest a family with Christian affiliations: one has a Greek cross in charcoal on each side; two are inscribed in Greek with the Jewish name "Jesus;" and one in Hebrew with a name deciphered as "Simcon Barsaba," suggestive of the disciples Joseph Barsabab and Judas Barsabab mentioned in *Acts*. If Prof. Sukenik's readings and interpretations are accepted, this find is one of paramount importance, evidence for Christianity perhaps contemporary with Christ himself. (See also *American Journal of Archaeology* 1947, pp. 351 ff.)

Manuscripts of the Old Testament are part of the most important manuscript find in recent years, a deposit of vellum scrolls discovered by Beduin smugglers in a cave near the Dead Sea. These include an almost complete Hebrew copy of *Isaiah* not later than 100 B.C. and a Hebrew commentary on *Habakkuk*, and are about 1,000 years older than any previously known Old Testament manuscripts. (*Newsletter* No. 9.)

Turkey. Discoveries of great epigraphical importance are perhaps the most significant result of current excavations. At Karatepe, a late Hittite castle in the mountainous region northeast of Adana, the University of Istanbul has discovered on one of the three gateways with flanking lions and sphinxes bilingual inscriptions, in Hittite hieroglyphs and an old Semitic script. The latter thus furnish an important clue to the decipherment of the hitherto mysterious hieroglyphic script. At Labranda, mountain-sanctuary of Zeus, where a Swedish expedition has just begun work, two fairly extensive inscriptions in Carian have been found and should greatly increase our scant knowledge of this language.

The year 1947 saw the concluding season of Sir Leonard Woolley's important excavations at Tell Atchana (Alalakh) near Antioch. The discoveries are too numerous to be reported in full, but attention may be called to the elaborate funerary ritual of a Hittite king reconstructed from evidence beneath the funerary chapel of the 18th-century B.C. monarch, Yarin-Linn. Although the

excavations had to be cut short, due to mechanical difficulties, before the actual cremation urn and funeral offerings were reached, they did reveal within a great pit an amazing ritual of superimposed mud-brick chapels and purification through burning and strewing of earth.

Cyprus. This island was the scene of excavations by the local department as well as French, Swedish, and American expeditions during the 1947-48 season. Mention may be made of Dikaio's discovery of a new Neolithic site at Sotira, a few miles inland from Kourion; of the continued French excavations at the Late Bronze Age site of Enkomi which confirmed and made more precise the important discoveries reported last year; and of the University of Pennsylvania's clearing of the Sacred Way leading to the Temple of Apollo Hylates at Kourion. Important new evidence for the Greek colonization of Cyprus comes from a Swedish excavation last spring at Sinda about 20 miles east of Nicosia, where a Late Bronze Age citadel with massive walls and gateways was explored. Mycenaean pottery of a late type hitherto almost non-existent on the island was found in abundance in a stratum preceding destruction by fire in the early 12th century B.C. This pottery, apparently locally made, has no direct antecedents in Cyprus and points to the arrival of new Greek settlers in the general period of the Trojan War.

Greece. Gratifying word has come that the museums of Athens are being reopened. The most ambitious excavation was the 13th American campaign in the Athenian Agora last spring. Concerned mainly with clearing and study of known monuments prior to the erection of a museum, the excavation did make several significant new finds: a large building of the 5th century at the west foot of the Areopagus, tentatively identified as one of the law-courts or dikasteria; a richly furnished cremation grave of the early Geometric period (ca. 900 B.C.) containing among other offerings two pairs of miniature terracotta shoes; and a superb marble torso of a youth, a Greek original of the Classical period belonging stylistically with the Parthenon frieze and other works of the third quarter of the 5th century. Its scale and preservation suggest its attribution to the lost pedimental composition of the Hephaisteion (Theseion).

Although on a small scale this past year, the American excavations at Corinth had the good fortune to reveal long-awaited evidence for a Mycenaean settlement. Over 50 years of excavation had uncovered no traces of habitation in the 2nd millennium, despite Homeric testimony that Corinth was a wealthy and powerful city. This mystery is now explained by the fact that the Late Bronze Age city is to be sought to the east of the later Agora in a region hitherto undug, commanding Peirene and other springs. The evidence comes from three rough-hewn pits near the Julian Basilica, which, although reused in later periods, were evidently cut in the Mycenaean period, probably as storage rooms under a large building. The southern pit contained at the bottom a deposit of Mycenaean pottery, including a fine early 13th-century krater decorated with chariot scenes. (*ILN.* Aug. 28, 1948.)

New York University's Institute of Fine Arts reopened excavations, under the direction of Karl Lehmann, at Samothrace this summer. Their main task was the installation of their prewar finds in a new museum.

Italy. Most of the digging was in the hands of local regional departments, but a French excava-

tion was active at the Etruscan site of Volsinii, and the American Academy in Rome began excavations at another Etruscan settlement, Cosa, in the spring.

From Rome it is reported that one of the horses' heads from the West Pediment of the Parthenon has come to light in the basement of the Belvedere Museum, and that traces of the Republican city-wall have been revealed in the construction of a new underground station.

The repair of bomb damage at Palestrina has disclosed a monumental architectural ensemble designed by Sulla's architects to connect the new city in the plain with the citadel which was redesigned as a grandiose sanctuary of Fortune.

Recent excavations of the archaic cemetery of Montelusa at Agrigento have produced evidence for the presence of strong bodies of Greek settlers before the official founding of the city in 582 B.C.

The year 1948 marked the bicentennial of excavations at Pompeii, commemorated with a special program. Ground is being cleared for a new museum to replace the one which was destroyed during the war.

France. Excavations at Marseilles, France, occasioned German dynamiting of the "quartier du Vieux-Port," have laid bare the ancient city, founded as Massalia by Phocaean Greeks ca. 600 B.C. Remains of a Greek theater, the first uncovered in France, the pavement of the Agora, the Greek beach and Roman docks are among the most important discoveries.

The remains of a 2nd or 3rd-century A.D. Roman bath have been recovered during excavations this spring beneath the gardens of the Cluny Museum in Paris. (*Newsletter* No. 8.)

Holland. Two Roman temples, among the first pagan religious buildings discovered in this country, were revealed in the summer of 1947 in the course of repair to the war-damaged Reformed Church at Elst. The earlier temple belongs to the beginning of our era, the second which had a Corinthian peristyle is probably 2nd century.

British Isles. Medieval frescoes, which had been whitewashed at the time of the Reformation, have recently been uncovered in the Church of St. Andrew, Pickworth, Lincolnshire. Their presence became suspected during the war when bomb concussion knocked loose some of the whitewash. In addition to a Last Judgment over the chancel arch, the paintings consist of an Ascension and a French Morality of the Three Living and Three Dead, and can be dated ca. 1380. (*ILN.* Jan. 3, 1948.)

A Celtic farmstead of the 8th to 10th centuries was excavated at Lissue near Lishum in North Ireland. In its later period it consisted of one large circular building 120 feet in diameter with central hearth and concentric rows of wooden posts supporting a flat sod roof. Among the most interesting finds are an oak swinging churn 2 feet high mounted with iron bands, a slate slab with 22 incised ornamental patterns, probably used by an itinerant metal-worker for tracing his designs, and a number of fragments of leather boots of a type previously unknown. (*ILN.* Jan. 10, 1948.)

Mexico. Excavations by Mexican archaeologists have been continued at Xochicalco, the city of the Toltec predecessors of the Aztecs in central Mexico, and at Monte Alban the center of the Zapotec civilization which lasted from ca. 400 B.C. to 1400 A.D. The former site shows interesting Mayan connections in the 11th century, and the latter site is distinguished by a series of reliefs of dancers carved in a vigorous realistic manner and dating to the first period. (*ILN.* Jan. 17 and Apr. 10, 1948.)

United States. Considerable activity took place in this country during the past year, mainly under the auspices of State universities and the Federal government. No less than seven universities had summer field sessions for graduate and undergraduate credit. The River Basins Survey under the supervision of the Smithsonian Institution conducted large-scale reconnaissance and surface surveys in the Great Plains and Missouri River Basin, in areas to be flooded by the construction of projected dams.

Attention is called to the new popular periodical *Archaeology*, published by the Archaeological Institute of America, and to the new section, *Archaeological News*, in the *American Journal of Archaeology*, which presents in its four issues a complete coverage of current discoveries in the Near East, Classical Lands, Europe, and America. See ANTHROPOLOGY. —SARA A. IMMERWAHR

ARCHERY. Larry Hughes of Burbank, Cal., won the national target title, the women's championship being won by Jean Lee of Greenfield, Mass. The men's team laurels went to the Ozark Archery Club of Springfield, Mo., and the women's crown to the Golden Gate Archers of San Francisco, Cal. E. H. Perkins of Oakland, Cal., took honors with the crossbow.

Other national champions were Jack Stuart, Austin, Tex., flight, regular style; Verne Trittin, Salt Lake City, Utah, women's flight, regular style; Paul Berry, Middletown, Ohio, flight, free style; Ruth Diffendal, Osborn, Ohio, women's flight, free style; Russ Reynolds, Cleveland, Ohio, clout, 180 yards; Ann Weber, Bloomfield, N.J., women's clout, 140 yards; Verne Trittin, women's clout, 120 yards; Roy Dill, San Diego, Cal., field, and Mrs. Henry Bitzenburger, Los Angeles, Cal., women's field.

—THOMAS V. HANEY

ARCHITECTURE. Wars bring an aftermath of architectural change. After World War I, there was a drawing together; after World War II, apparently a drawing apart of different major regions, despite the basic similarities that distinguish an age. In Europe, during 1948, the functional emphasis was weakened. Some architects, although they still built on the earlier functional forms, sought for more spontaneity rather than logic in arrangement, more refinement and invention in detail rather than the former restraint. Others interrupted the modern movement altogether, by a return to classicism influenced, knowingly or not, by Hitler's style evolved under Albert Speer; in both cases the deviation was explained on grounds of "humanness" contrasted with an imputed superhuman, or inhuman, austerity. In the Soviet Union, another sphere of influence, the earlier tenets of Marxism were being stood on their head; architecture was officially promoted that should be nationalistic (especially in Russia itself, where the tradition was "discovered" to have been influenced much less by Europe than had been previously supposed) and regional, and subject to popular taste, and based definitely on the cultural "inheritance" as opposed to Western architecture which propaganda associated entirely with the "decadence" of "constructivism" and "mechanization" rather than to "the human soul." In Latin America, by contrast, there was continued brilliant development on lines laid down originally by Le Corbusier, romantically modern, ever more richly plastic and colorful; a trend with some echoes in France and Italy. In the U.S. the trend was setting in ever more strongly toward "modern" architecture, with

some voices raised in favor of more "humanism" (but the practice modified, as it was not in Europe, by the strongly coherent creativeness of Frank Lloyd Wright) and again with other architects deliberately practicing the restraint of more honest and straightforward form, and yet another group, strongly technological in bent, carrying the earlier functionalism forward into a rounded "environmental" development for which both Europe and Russia lacked the technical means.

A good deal of this architectural practice and discussion was rather narrowly confined in its bearing on building as a whole. For reconstruction, in Europe, materials were badly limited; England, where such material was stringently rationed in favor of residential, school, and hospital building, was doing better than countries such as Italy with no controls. The French Minister of Reconstruction developed interesting regional plans, along Le Corbusier lines, of which acceptance by the arch-conservative population was dubious; Germany's efforts, under hydra-headed occupation, were pitifully distorted and meager. In countries within the Soviet sphere, some, like Poland, made rather rapid progress, especially in the advanced replanning and slow rebuilding of Warsaw. Others, such as Czechoslovakia, which had been in the advance guard of European technology, suffered badly by being coupled with technically retarded Russia.

United States Architecture. By conservative calculations, building construction activity for 1948 represented approximately 16,000 million dollars (F. W. Dodge figures for 37 Eastern states, plus allowance for Western states). The Bureau of Labor Statistics reported construction of approximately 950,000 dwelling units.

Architectural events of major significance included the conclusion in February of the "Jefferson National Expansion Memorial Competition" for St. Louis, on which an Association of the same name expended \$100,000. First prize (\$50,000 in all) went to a team composed of Saarinen, Saarinen and Associates, Architects, and others (Eero Saarinen, designer; J. Henderson Barr, associate designer; Alexander Girard, painter; Lily Saarinen, sculptor; Dan Kiley, landscape architect). The outstanding feature of the design, a proposed 550-ft. high parabolic arch of stainless steel, symbolizing the "gateway to the West," was placed as to frame a vista, from across the Mississippi, to the Old Court House; the waterfront area as a whole being treated as an informal park which with artful simplicity and spaciousness accommodated a beautifully organized grouping of the requisite cultural and recreational buildings and facilities. The jury, headed by W. W. Wurster, hailed this design as a "work of architectural genius" promising to "rank among the nation's greatest monuments." Dependent on Congressional appropriations for execution, the design was still a paper concept at year's end.

If direct observation of finished buildings is substituted for abstract discussion among different schools of thought, there can be discovered a rich variety irrespective of label. Mature accomplishment prevailed in 1948, especially among houses. The house of Hugh Stubbins, Jr., for himself, at Lexington, Mass., was exhibited by the Museum of Modern Art along with a new house for himself by Marcel Breuer at New Canaan, Conn. (with a compact plan and a remarkable "floating" quality due to sophisticated use of carpenter-built expedients for cantilevering out the house beyond its basement), and a house in Chicago by Ralph Rapson, all of them selected as outstanding post-

war houses. Breuer achieved a larger house outside Williamstown, Mass., that might be considered his masterpiece to date. Its long raking "butterfly" roof fit it handsomely to the Berkshire hills, and was carried out as a dramatic visor shading the outdoor terrace; stone fences running out from the glass walls served to anchor the house sculpturally to the ground; spatial sequences were woven knowingly in and out of rooms, courts, passages, and even through high roof openings of a plan splendidly adapted to an active sports-loving life.

In Florida, Twitchell and Rudolph were creating a series of strongly architectural houses; very different again was the very spontaneous, easy, unforced character of the M. P. Davison house at Fresno by Wurster, Bernardi & Emmons, and a group of houses by Henry Hill remarkably blending the architectural discipline of a Harvard training with the naturalness of the West. Republication of Walter Gropius' house for himself at Lincoln, Mass., in *House & Garden* after ten years of use showed how wide of the mark those critics had been who accused him of mere mechanization. Under full planting development and continued occupancy the strong geometry had taken on a noble full-blooded grace and dignity.

On a far wider base, the year witnessed a couple of milestones with the marketing of the Lustron prefabricated house of porcelain enamel at a fairly large scale, an unusually acceptable product for "ordinary people"; on the other hand the Harmon Corporation wound up an operation that once looked promising, by setting up its full remaining stock of prefabricated houses on a Long Island site. For Bemis Foundation, Carl Koch developed a highly attractive little house, the "Acom," to be transported folded on a truck, and literally to unfold its story on the site.

In the apartment house field, too, a log jam was broken when New England Mutual Life Insurance Company and Massachusetts Institute of Technology jointly began construction of a 12-story, 1,000-room, 261-apartment building facing the Charles River Basin in Cambridge, Mass., on a building plan hitherto unique in the United States, and highly attractive in its consequences. It was the so-called "skipfloor corridor" plan, meaning that elevators stop at corridors on only every third floor, so that apartments on intermediate floors (reached by short stairs) go transversely through the building, from wall to wall, and consequently have through-ventilation. Also, the nature of this plan type made it possible to give every apartment, without exception, a living room (with living balcony) faced both to the view and the sun. The fact that the architects had put the building through the Cambridge building code gave courage to architects elsewhere, doing apartments for insurance investors or public housing authorities, that they might escape the boredom of planning all large apartments as crosses, or double crosses, or modified crosses in their layout. The new type can be made up of building elements in the form of long, thin, up-ended slabs. (Architects were M.I.T. staff members Wm. Hoskins Brown, Carl Koch, Robert Kennedy, Vernon DeMars, Ralph Rapson; engineers, Thomas Worcester, Inc.)

Among commercial buildings, a major opus was the Cincinnati Terrace Plaza Hotel, by Skidmore, Owings & Merrill, with its base raised eight stories above the ground (two large stores underneath), a spacious roof terrace taking all the setback requirements in a single step. The hotel was distinguished not only by carefully redesigned guest rooms (more like living lounges than the custom-

ary bedrooms) but by the use of modern murals and sculpture in public rooms (the gay bright-colored Miro mural occupying the only solid-wall segment of an intimate, glass-encircled roof restaurant; the more successful Steinberg mural in the large dining room at terrace level, with witty calligraphic things and creatures more nearly afloat against the background and thus continuing the "sky" effect of the contiguous glass).

Another ambitious commercial building was Harris Armstrong's headquarters building for American Stove Company at St. Louis, a colorful cubic composition (though not in best proportions) on a glass base, with careful daylighting for offices and a striking lobby enhanced by Noguchi's sculptured ceiling abstractly suggesting foundry processes and forms. Large numbers of stores were finished in the familiar modern streamlined baroque (e.g. Wurdeman & Beckett's Pasadena store for Bullock's); much rarer was the rich simplicity of the Knoll furniture showroom in New York, enhanced by Herbert Matter's spatial fancies in inexpensive string; the year's masterpiece might have been Rafael Soriano's seed store in San Francisco for Hallowell, its impact being that of nothing but an extremely pleasant seed store, and the extremely subtle architectural devices being apparent to none but the close student.

Educational buildings made rapid strides, particularly the University of Miami, with its splendid master plan by Marion Manley, university architect, and Robert Law Weed & Associates. The first classroom and dormitory buildings, finished during the year, were brilliant solutions for a sub-tropical climate, and with clean and more than satisfactory contemporary form. Public schools continued to be in the architectural vanguard; probably the most satisfactory solution of the year was Bamberger & Reid's little addition to the Fairfax school near San Francisco, producing a happy and euphoric environment without that patronizing attitude toward children by adults.

Among hospitals, in which there was enormous activity, an outstanding completion was that of the Sloan-Kettering Institute for Cancer Research in New York, again by Skidmore, Owings & Merrill, immediately adjoining the Memorial Hospital. Church work lagged in quality, since it was increasingly difficult to obtain either funds or skilled hands, in drafting room or on site, to execute the archaic models considered suitable for religious purposes, while there was reluctance on the part of church boards to accept the interpretation of divinity as ever-new creation. An outstanding little church was the Episcopal chapel, 'the Church of St. Clement, at Alexandria, Va., by Joseph H. Saunders, Jr. It was based upon an entirely windowless and air-conditioned interior, with congregation of 400 divided so as to face the center, not the end, of the hall; at this center was the altar and above it a plain oak cross hung from the ceiling. In an interior otherwise as dark as a motion picture house, the altar, cross, and pulpit were spotlighted in such manner as to suggest being self-luminous, and an atmosphere was created conducive to quiet meditation.

Industrial buildings remained in the same trends as before. Architecturally, a distinguished though not exciting result was obtained by Gropius in the Greensboro, N.C., plant of the Container Corporation of America. Had there been the same degree of happy skill in the Johnson & Johnson program of humanized factories in rural setting, they might have raised themselves to a very high rank of architectural achievement.—DOUGLAS HASKELL.

ARGENTINA. A Federal Republic of South America. The Andean highlands occupy approximately one-third of the country; the remainder consists of plains. In the lower plateaus of the northwest, the climate is subtropical and dry in the winter. In the eastern part, the climate is wet and temperate, and in the high Andean Plateaus and the southern steppes, it is cold and arid.

Area and Population. Area, 1,079,965 square miles. Population, 16,107,876 (1947). Principal cities: Buenos Aires (capital), Rosario, Córdoba, Tucumán, La Plata and Santa Fé.

Education and Religion. Over 85 percent of the population are literate. Primary education is free and compulsory. In 1946, there were a total of 14,759 elementary schools with an enrollment of 2,081,521 students; 459 public secondary schools with 148,568 students; 584 private secondary schools of various kinds, with an enrollment of 49,515, and six large universities. According to the Constitution, the government supports the Roman Catholic Church, and to be President of the Republic, it is necessary to belong to that faith, although the Constitution also provides for freedom of worship.

Production. Agriculture, stock raising, and manufacturing are the principal occupations. Estimated yields of the principal agricultural crops in 1947 were (metric tons): wheat, 5,615,000; corn, 5,815,000; barley, 1,235,000; flaxseed, 1,034,000; oats, 831,000; sugar cane, 7,444,600; sunflower seed, 688,000. Pastoral products: number of cattle slaughtered in 1946, 7,140,000; sheep, 11,820,000; pigs, 2,550,000. Packinghouse output in 1946 (metric tons): beef, 592,000; lamb, 175,000; pork, 114,000; wool, 238,000. Monthly averages of industrial products in 1947 (metric tons) included cotton yarn, 5,490; butter, 4,300; cheese, 6,900. The production of crude petroleum during the year 1948 was estimated at 23,248,000 barrels, as compared with the production for the year 1947 of 21,847,000 barrels (in 1948 the daily average totaled 63,500 barrels). In 1946 the production of wine was 894,000,000 liters, and beer 252,000,000 liters. Mineral production in 1946 included 76,000 metric tons of metallic ores and 14,987,000 of non-metallic ores.

Foreign Trade. Total exports in 1947 amounted to \$1,587,900,000; imports to \$1,308,300,000. Exports in the previous year totaled 3,973,100,000 pesos (one peso is equivalent to 0.24 U.S. dollars); imports 2,331,700,000 pesos. The United Kingdom continued to be the leading market for exports in that year, followed by the United States, France, Belgium, and Brazil. The United States was the chief supplier of imports, followed by Brazil, the United Kingdom, and Sweden. Argentina's trade in 1948 continued to increase and during the first three months, exports totaled approximately 1,740,000,000 pesos, imports 1,577,000,000 pesos.

Transportation. Argentina has the largest rail-transportation system in Latin America, covering 43,252 km. which in 1947 transported 751,000,000 passenger-kilometers, and 1,301,000,000 net ton-kilometers of freight. There are important national airlines, in addition to numerous foreign-owned lines that link the country with the rest of the world. In 1946, there were approximately 300 vessels with an aggregate tonnage of 354,000. On Mar. 16, 1948, a decree was issued by the government requiring that all imports and exports be handled on Argentine rather than on foreign ships. Argentina has 253,115 miles of highway; nearly half a million motor vehicles; 1,336,000 radio sets, and 460,857 telephones.

Finance. The budget for 1947 was 2,523,700,000 pesos. Internal public debt in 1946 amounted to 10,721,200,000 pesos and the external debt to 109,100,000,000 pesos. Gold exchange holdings at the end of 1947 amounted to \$1,071,100,000 indicating a decline of about 38 percent over the previous year. Currency in circulation on the same date amounted to 4,674,000,000 pesos and deposits to 6,247,000,000 pesos. A severe exchange control has been established. Cost of living in December, 1947, was 192, taking 1937 as the base year.

Government. Argentina is a federal republic, composed of 14 provinces, 9 territories and a federal district. The constitution of May 1, 1853 is still in force, with several amendments. Legislative power corresponds to a Congress formed by a Chamber of Deputies and a Senate. There are two Senators for each province and two for the Federal District, elected for nine years. Deputies are elected for four years, in the proportion of one for each 33,000 inhabitants or a fraction no smaller than 16,500. The President and Vice President are chosen by an electoral college for a term of six years. Juan Domingo Perón was elected President on Feb. 24, 1946, and took office on June 4, 1946.

Events, 1948. Early in January, the political climate of Argentina was affected by the partial elections to be held in March, and by the efforts of the five-year plan. International attention was focused on the development of effective commercial agreements with European countries and with neighboring Latin American states.

Partial elections. Elections were held early in March and helped restore a legal status to the province of Buenos Aires, which had been under an unconstitutional situation since the de facto government of 1943. Of more importance to the nation as a whole were the elections to fill 83 vacancies in the Chamber of Deputies. The Peronista Party played up the success of their policy of economic nationalism, notably the acquisition of the British-owned railroad, which was celebrated with due pomp. The elections gave the Peronistas a total of 446,307 votes with 109 seats in the new Congress, against 247,474, or 49 seats, for the opposition. The victory encouraged the Peronistas to plan a constitutional amendment, under which Perón may be reelected when his term expires in 1952.

Commercial Internationalism. Due to her advantageous economic position with regard to her neighbors, Argentina succeeded in signing supplementary agreements with Bolivia to acquire 8,000,000 tons of tin annually for five years, as well as other merchandise; Argentina to contribute 2,000,000 pesos for the establishment of a development corporation in Bolivia. On April 3, a commercial treaty was signed with Spain, allowing a credit of 1,750,000 pesos to be used in the purchase of foodstuffs in Argentina; Franco's government to construct ships for Argentina in Spanish shipyards, and a general warehouse in a free zone of the Port of Cádiz to serve commerce between the two countries. This credit covers a four-year period, expiring in 1951. Democratic groups opposed the treaty on the grounds that it would serve to bolster the difficult economic situation of Spain.

On June 12th, economist Miguel Miranda, considered one of the most influential men in Argentina today, stated that his country would not vary its policy with regard to prices on export foodstuffs, in view of the high prices Argentina is forced to pay abroad for manufactured articles. He added that the agreement regulating the price of wheat was directly intended to affect Argentina, since

the signatory nations, notably the United States and Great Britain, did not adhere to its principles with regard to their own export goods.

Inter-American Cooperation. At the end of March, a political rapprochement with Mexico was seen. The Presidents of both countries made radio speeches, in which they underlined their feelings as to the importance of maintaining world peace, and against imperialism. A few days later, President Perón spoke again for world peace and in favor of social justice and economic independence. This was interpreted as an effort to prepare a solid inter-American front for the coming Bogotá Conference (see below International Events.)

Parliamentary Crisis. In June, a serious parliamentary crisis affected the country. Opposition deputy Ernesto Sanmartino commented in Congress, in strong terms, on the suppression of political freedom established by the Peronista government. The Peronista deputies considered the remarks offensive to the President, and entertained a motion asking for the expulsion of Deputy Sanmartino, which was approved by Congress. The 42 deputies of Sanmartino's Radical Party resigned from Congress, thus removing one of the few remaining active opposition forces, which lent Perón's government a semblance of democracy. Before the incident, the Radical deputies had strongly opposed the Peronista proposal for a workers' university, because of the partisan ideology behind the project. They also attacked the absolute control over education in institutions of higher learning.

Attempt on Perón's Life. On September 24, the government announced that a serious plot to assassinate President Perón and his wife had been discovered. According to the police, the attempt was to have been carried out on October 12, Columbus Day. Many arrests were made, among them two naval chaplains, other members of the navy, a Catholic priest, and labor leaders. The sensational aspect of the plot was the official accusation made by the government against John F. Griffith, former Cultural Attaché of the U.S. embassy in Buenos Aires, who was removed from his post last spring, charged with participation in a bank employees' strike. From Montevideo, where Griffith resided, he energetically denied the accusations, stating that he had had no contact with Argentina for several months. President Perón himself singled out and accused Mr. Griffith in a public speech.

The announcement of the plot caused a number of pro-government rallies, and the General Confederation of Workers declared a 14-hour sympathy strike. The Peronista press took advantage of the opportunity to express their nationalism, and violently attacked "Yankee imperialism." The plot had one serious political effect in the resignation of Minister of the Navy, Admiral Fidel Anadón, who also held the portfolio of Foreign Affairs, due to the absence of Juan Atilio Bramuglia, at that time representing the government at the UN meetings in Paris. It was rumored that his resignation was due to the Navy chaplains' complicity in the affair. The chaplains were suspended by a decision adopted by all the bishops of the nation. The investigation of Griffith's participation was still under way in December, 1948, when the Argentine Chief of Police went to Montevideo for an interview with President Batlle of Uruguay. The parties of the opposition denied all association with the plot and several deputies demanded a congressional investigation.

International Front. In the world affairs of the year, Argentina took an active part. Most important events were her claims to Antarctic lands, her ener-

getic intervention at the Bogotá Conference, and the preeminent role played by Prime Minister Bramuglia in the UN Security Council.

Early in the year, President González Videla of Chile started a campaign to claim part of the Antarctic territories for his country, he found warm support in Argentina, whose important interest in that region does not conflict with Chile's. Argentina's traditional policy has always been non-recognition of Great Britain's sovereignty over the Falkland Islands, in spite of the good political and economic relations maintained with the United Kingdom. Her support of Chilean claims was interpreted as a plan to reopen the issue of the Falkland Islands and an effort to reach a compromise with regard to Argentina's claims. The Buenos Aires press stressed the importance of bringing the case before the Bogotá Conference and of reaching a decision on all European possessions in the Western Hemisphere, thereby backing Guatemala's claim to Belize.

At the Ninth Inter-American Conference of American States, held at Bogotá in April, Argentina played an important role. In the economic discussions, she fought for the creation of an inter-American bank to help the countries suffering from shortage of dollar exchange and to facilitate a more efficient hemisphere economic cooperation. This proposal met with a cold reception from the United States delegates, and was referred to a future economic conference.

In the political field, she endorsed the condemnation of communism and all forms of totalitarianism, and became signatory to the Charter of the Americas, which gave a new institutional and juridical structure to the inter-American system. Argentina tried to reach a solution with regard to the European colonial possessions, but the matter was referred to a committee. The Argentine delegation unanimously backed the proposal to continue the sessions when they were interrupted by the April 9 revolt (see COLOMBIA, 1948).

On the European front, Argentina from her position in the Security Council, fought gallantly for world peace. Foreign Minister Bramuglia headed the group of nations that insisted on a solution of the Berlin issue (see UNITED NATIONS).

Political Finale. At the end of the year, political tension was focused on the elections for the Constitutional Assembly scheduled for December 5. Admiral Teisaire, speaking for the Peronista Party, summarized its program in the following way: Nationalization of public services and organization of the wealth of the country in hands of the Argentines; respect for the principle of free enterprise, but state control over imports and exports; legal and social equality of all citizens; outlawing of the exploitation of man by man; definition of property as a social function; agrarian reform and division of latifundia. On the political-domestic front, the most important change sponsored by the Peronistas was the constitutional amendment doing away with the ban on reelection of the President. They stressed that the ban was undemocratic, since it prevented the people from reelecting a President if they so wished.

The results of the December election showed that the Peronistas had received 63.1 percent of the total vote, and obtained the election of 109 delegates in the Convention. Forty-nine seats were won by the Radical Party. —MIGUEL JORRÍN

ARIZONA. A mountain State. Area: 113,956 sq. mi. Population (July 1, 1948): 664,000, compared with (1940 census) 499,261. Chief city: Phoenix

(capital), 65,414 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Legislation. Several special sessions were called in 1948, dealing principally with urgent requirements for additional water resources. In addition, the state public health department was reorganized; a hospital survey act was adopted; and limitations on municipal budget increases were relaxed for one year.

Important changes were ratified by the voters in November. Provision was made for succession to the Governorship; for a State merit system with job and salary classifications; for a public employees' retirement system; for special sessions of the legislature called by the legislators; and for a right-to-work labor law.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$56,263,000; total expenditure, \$54,573,000.

Elections. The 4 electoral votes of Arizona went to Truman whose popular majority over Dewey was somewhat less than that of Roosevelt in 1944. Arizona's 2 House seats remained Democratic. In State races, Dan E. Garvey, Democrat, was reelected to a full term as Governor. Other successful candidates included: Secretary of State—Wesley Bolin; Attorney General—Fred O. Wilson; Auditor—Ana Frohmler; Treasurer—J. W. Kelly; Superintendent of Public Instruction—M. L. Brooks.

Officers, 1948. Governor, Sidney P. Osborn; Lieut. Governor, None; Secretary of State, Dan E. Garvey; Attorney General, John L. Sullivan; State Treasurer, Mit Sims; State Auditor, Ana Frohmler.

ARKANSAS. A west south central State. Area: 53,335 sq. mi. Population (July 1, 1948): 1,925,000, compared with (1940 census) 1,949,387. Chief city: Little Rock (capital), 88,039 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$94,218,000; total expenditure, \$93,057,000.

Elections. Truman won a popular majority and captured the 9 electoral votes in the race against Dewey and Thurmond. Senator John L. McClellan, Democrat, was reelected, and all 7 House seats remained Democratic. In the contest for Governor, 36-year old Sidney S. McMath, World War II veteran and supporter of the regular Democratic ticket, was successful. Also elected to State office were the following, all Democrats: Lieutenant Governor—Nathan G. Gordon; Secretary of State—C. G. Hall; Attorney General—Ike Murry; Treasurer—J. Vance Clayton; Auditor—J. Oscar Humphrey.

Officers, 1948. Governor, Benjamin T. Laney; Lieut. Governor, Nathan Gordon; Secretary of State, C. G. Hall; Attorney General, Guy E. Williams; State Treasurer, J. Vance Clayton; State Auditor, J. Oscar Humphrey; Land Commissioner, Claud A. Rankin.

ARMY, Department of the. The Department of the United States government which is charged with the responsibility of organizing, training, and maintaining the Army, and with certain non-military activities; created by the National Security Act of 1947 (effective midnight Sept. 17, 1947) as one of the three armed components of the National Mil-

itary Establishment to succeed the War Department, which in turn was created in 1789 to succeed a similar department established prior to the adoption of the Constitution.

The Department of the Army, administered as an individual executive department by the Secretary of the Army, is the headquarters in Washington, D.C., for planning and administration. Headquarters for Army Field Forces is at Fort Monroe, Virginia. Secretary of the Army, Kenneth C. Royall (named the first Secretary of the Army in July, 1947, having earlier succeeded Robert P. Patterson as Secretary of War); Under Secretary of the Army, William H. Draper, Jr. (appointed August, 1947; charged with the supervision of occupied territories); Assistant Secretaries of the Army, Gordon Gray (appointed September, 1947; exercises supervision over procurement and related matters) and Tracy S. Voorhees (appointed June, 1948; acts as Food Administrator for the Occupied Areas).

Events, 1948. Shortly after Gen. Omar N. Bradley was sworn in as Chief of Staff on Feb. 7, 1948 (succeeding Gen. of the Army Dwight D. Eisenhower), he announced the Army's plan for an 18- to 25-division striking force, to be built up gradually by 1952. The objective for the fiscal year 1948-1949 was announced as 18 divisions—12 of which would be Regular Army and 6 National Guard—organized, manned, equipped, and trained. The plan calls for additional divisions to be added yearly until the final objective of 25 divisions is attained, with the National Guard providing 13 of these divisions and the Reserve Corps organized with service and combat units to support all 25 divisions.

Courts-Martial. Under amended Articles of War (as provided in the Selective Service Act of 1948 and a new *Manual for Courts-Martial*—U.S. Army, 1949), enlisted personnel are eligible to sit as members of general and special courts-martial when such request is made by an accused enlisted man. The use of coercion or unlawful influence in obtaining a confession is now made a criminal offense, and procedures are changed to emphasize the presumption of innocence in trial by courts-martial. A guarantee of proper enforcement of the new law is provided by two key changes—the requirement that the law member, the trial judge, be a qualified military lawyer; and the provision for a final appellate court of review, to consist of military legal specialists of long experience in that field.

Changes for Enlisted Men. As of Aug. 1, 1948, the enlisted grade structure of the Army was changed. The following table gives the grade, the former title, and the present title for each grade, together with the changes in monthly base pay.

Grade	Former Title	Present Title	Monthly Base Pay *
1st	Master Sgt.	Master Sgt.	\$105.00 - \$247.50
2nd	Toolt. Sgt.	Sgt. 1st Cl.	135.00 - 302.50
3rd	Staff Sgt.	Sgt.	115.00 - 172.50
4th	Sergeant	Corporal	100.00 - 150.00
5th	Corporal	Pvt. 1st Cl.	80.00 - 135.00
6th	Pvt. 1st Cl.	Private	50.00 - 120.00
7th	Private	Recruit	75.00 - 112.50

* With a 5 percent increase in base pay for each 3 years of service up to 50 percent.

The new promotion system places the enlisted soldier in recruit status for the first four months of his service, with automatic advancement to the 6th pay grade assured on completion of basic training.

The sleeve insignia of the grades were changed

as follows: 3 arcs under the chevrons for a Master Sergeant; 2 arcs under the chevrons for a Sergeant 1st Class; 1 arc under the chevrons for a Sergeant; 2 chevrons for a Corporal; and 1 chevron for a Private 1st Class. No sleeve insignia are worn in the 6th and 7th grades; Private and Recruit, respectively. In addition, sleeve chevrons are to be changed to approximately two-thirds their present size, and will differentiate by color combat and non-combat personnel.

Women's Army Corps. Passage of the Women's Armed Services Integration Act on June 12, 1948, marked the first time that women outside the medical services had become a part of the Regular Army. Initially, a build-up by the end of two years after passage of the act authorizes the Women's Army Corps a strength of 500 officers, 75 warrant officers, and 7,500 enlisted women. A training center for the Women's Army Corps has been established at Camp Lee, Petersburg, Va. Director of the WAC: Col. Mary A. Hallaren (sworn in Dec. 3, 1948).

Reorganization. A high-echelon reorganization of Headquarters of the Department of the Army, to place that service on a functional "peace-or-war" footing, became effective on Nov. 15, 1948. The new organization, incorporating many of the features of the World War II set-up, is designed to obviate the necessity for sudden or drastic change in the event of a national emergency. See MILITARY PROGRESS, NATIONAL MILITARY ESTABLISHMENT.

ART. The breaking of the engagement of the Whitney and Metropolitan Museums (with the latter establishing a new department of contemporary American painting); a brief, if negative, revival of Federal interest in art; the decline of industry as a patron; and the accelerated criticism of "modern" art were the outstanding developments of 1948.

Museums. When the merger of New York's Metropolitan and Whitney Museums was announced in 1943, there were many who deplored the move and wishfully predicted that it would never actually come about. In October, 1948, their prediction came true. The Metropolitan announced that "The trustees of the Metropolitan Museum have consistently indicated their willingness to carry out the proposed coalition, and greatly regret the decision of the trustees of the Whitney Museum to abandon this plan which would have made available to the public a comprehensive exhibition of American art by combining the artistic resources of both museums."

Two months later the Metropolitan announced the establishment of a new department of Contemporary American Art and the appointment of Robert Beverly Hale, Art Students League instructor, as its associate curator. Mr. Hale's duties were not clearly defined as the year ended, but it was generally understood that he will supervise purchases from the more than \$100,000 Hearn Fund, which is earmarked for the work of contemporary American artists. He will continue his classes in anatomical drawing at the Art Students League.

Simultaneously with the Metropolitan's October announcement, the Whitney Museum of American Art issued a statement calling attention to the fact that it "has always aimed impartially to represent the many diverse tendencies of the art of our time. In the years of contact between the staffs of the Whitney Museum and Metropolitan Museum, it has become increasingly apparent that there were serious divergences in the attitude toward contemporary art of the two institutions, especially

with respect to the showing of advanced trends in the art of today.

"This disagreement in fundamental principles raised grave doubts, whether the Whitney Museum's liberal tradition could be preserved after coalition. This consideration outweighed the many advantages to coalition. The Whitney will be continued as an independent institution, carrying on the liberal purposes on which it was founded."

With the opening of its "Annual Exhibition of American Painting" on November 13, the Whitney also announced that Hermon More, former curator, had been appointed director and Lloyd Goodrich, former research curator, appointed associate director, following the death in August of Juliana R. Force, director of the Whitney for many years and staunch champion of living American artists. The Whitney annual (see below) amply illustrated the continuance of the Museum's stated policy.

The growing concern during 1948 over "radicalism" in art (as in politics) which brought about the Whitney-Metropolitan dissolution caused reorganization of two other American museums. In Boston the Institute of Modern Art abruptly changed its name to the Institute of Contemporary Art, because it had decided that the word "modern" gave opportunity for "double talk, opportunism, and chicanery at the public expense." In New York a group of artists immediately met at the Museum of Modern Art to protest what they called "Boston's reactionary attitude." In answer to such protests, the new Boston "Institute" opened an exhibition of the work of Oskar Kokoschka, leading European expressionist, whose works had never before been assembled for an American exhibition.

In Des Moines, Iowa, the director of the Art Center, Paul Parker, resigned only a few weeks after the June 2 opening of the new building designed by the famous modern architect Eliel Saarinen. His stated reason was "complete disagreement between the Edmunston Trustees [custodians of the foundation which operates the Center] and myself regarding the acquisition policies." The nature of this disagreement was defined by a writer in the Des Moines Register as being similar to the Boston and New York difficulties—Mr. Parker's championship of "advanced trends" in art. To succeed Mr. Parker the trustees appointed Richard Foster Howard, former director of the Dallas Art Museum.

Iowa's neighbor State, Illinois, revealed a less excited attitude toward "advanced trends." The University of Illinois recently inaugurated annual exhibition of contemporary American painting, aimed at presenting a cross section, awarded \$7,500 in purchase prizes to artists representing just that. One went to Eugene Berman for his almost surrealist *Portrait of Rico LeBrun*, another to Karl Knaths for an abstraction, and still others to more representational painters Julian Levi, Raymond Brienon, Joseph de Martini, Lester Schwartz, and Hazel Teyral. The catalog of the exhibition called attention to the fact that nearly 100 colleges and universities in the United States now have art museums and regular exhibitions, and that 25 of them have separate museum buildings.

Also unopposed by disagreement over modern art was the San Diego Fine Arts Gallery, which reopened its building after 5 years of service as a naval hospital. Forty-eight new paintings had been added to the collection in the meantime, including Mantegna's *Virgin at Prayer* and Memling's *Young Man with Folded Hands*. But most dramatic acquisition was the diorite carving *Rest on the Flight into Egypt* by the contemporary sculptor, Donald Hord. It had been delivered to the Gallery on

Pearl Harbor day, only to be returned to the artist's studio for the duration. It occupied a place of honor at the Gallery's reopening.

The Worcester Museum celebrated its 50th anniversary with an exhibition of its own and borrowed works during May. The wealth of its own collection recalled the days around the turn of the century when Stephen Salisbury, a leading citizen, casually left a \$25,000 check after each visit. To supplement this collection for the exhibition, Worcester borrowed from the Metropolitan (whose director, Francis Henry Taylor, left Worcester for his present position) its *Adoration of the Shepherds* by El Greco and *Venus and the Flute Player* by Titian. Other famous paintings were also loaned by the museums of St. Louis, Minneapolis, Chicago, Kansas City, Cleveland, and Detroit.

The Museum of Modern Art in New York held the first of a series of exhibitions planned to commemorate its 20th anniversary in 1949. Called "The Timeless Aspects of Modern Art," the exhibition brought together such objects as a cast of the 25,000-year-old *Venus of Willendorf* and sculpture by the late Gaston Lachaise in an attempt to show that there is nothing especially radical or strange in the forms that 20th century artists use to express their ideas.

Exhibitions. Most visited exhibition of the year was that of the German-owned paintings found in a salt mine by U.S. Army Engineers and brought to this country in 1945 for "safe-keeping" over the protest of the American Federation of Arts, the College Art Association, and numerous other organizations and individuals. Shown at the National Gallery during the first weeks of the year, the majority of the 202 paintings were then sent on tour by the Army for the benefit of German children in the American zone.

Nearly a million visitors thronged the National Gallery to see the famous Rembrandts, Bellinis, Brueghels, and other masterpieces from the Kaiser Friedrich Museum, and millions more saw them in New York, Philadelphia, Chicago, Boston, Detroit, Cleveland, Minneapolis, and San Francisco during 1948. In 1949 they will tour St. Louis and Pittsburgh, and will be packed up for return to Germany after the final showing ends in Toledo on March 31.

On the same day (May 17) that the Metropolitan Museum opened its exhibition of the German paintings, another controversial exhibition opened at the Whitney, whose director, Juliana R. Force, had led a movement to have the German paintings sent back to Germany in 1946. This was the collection of 79 oils and 33 watercolors which the State Department had purchased in 1946 for \$66,000 to circulate abroad as examples of "Advancing American Art."

They were recalled the following year because the Congress and the American public had found them too "advanced," and on May 17 were put up for auction at the Whitney Museum by the War Assets Administration. The art world waited anxiously to see if the bids would prove its contention that the State Department had made a good investment instead of "throwing away the taxpayers money on junk" as was charged.

When the bids were opened, it was found that the collection had increased in value by more than \$13,000. Tax-supported institutions and veterans had priority with a generous discount, and as a result the University of Oklahoma and Alabama Polytechnic Institute each got 36 paintings. The University of Georgia got 10; University of Washington, 6; Rutgers University, 4; Texas A. and M., 2; the Honolulu Department of Public Instruction,

5; Oswego (N.Y.) Public Schools, 3; New Trier Township High School (Winnetka, Ill.), 2; Dallas Museum, 1; Lancaster (Pa.) Public Library, 1; New York City Board of Education, 1.

Three veterans bid successfully: Charles Friedman of New Rochelle, N.Y., got 3 paintings; Ernest Apfelschutt of Brooklyn, 1; and Russell Reinke of Cleveland, 1. Highest bid was that of the St. Louis Museum for an oil by John Marin—\$10,000.

The year witnessed a number of less spectacular but equally important exhibitions in various cities. In April the Philadelphia Museum of Art held the largest showing of the work of France's dean of the modern movement, Henri Matisse, at which 271 paintings, prints, and drawings were exhibited, dating from 1893 to 1948. Most interesting aspect of the exhibition to American viewers was proof (in the realistic *Copy of Still Life by de Heem*) that Matisse, one of the "wild men" of modern art is also one of the world's greatest living draughtsmen.

Harvard's Fogg Museum held an exhibition of drawings in honor of its retired director, Paul Sachs, which was undoubtedly the greatest assemblage of old-master drawings ever to be shown in America. Yasuo Kuniyoshi, instructor at the Art Students League, was honored in April by the Whitney Museum with the first one-man exhibition of a living painter it has held. Kuniyoshi was also honored at a banquet sponsored by Artists Equity Association, of which he is president.

John Sloan was honored by a retrospective exhibition at the Kraushaar Gallery in which one of his famous "Ash Can School" paintings was exhibited, *South Beach Bathing*, of 1908. At the New York Historical Society 300 years of American children's portraits were exhibited beginning in November, entitled "Up From the Cradle." Most important exhibition held at New York's Museum of Modern Art was a great collection of oils by the French modern master, Pierre Bonnard.

California's growing interest in painting manifested itself in art exhibitions at two State fairs and a huge regional exhibition at Los Angeles. At Sacramento prizes totaling several thousand dollars were divided between "modern" and "conservative" artists, with \$1,000 going to Richard Haines for his expressionist *Crucifixion Hunt* and another \$1,000 to Einar Hansen for his academic portrait, *Sadakichi*. The Los Angeles County Fair staged a national exhibition in September, and awarded a \$700 purchase prize to the New York artist Louis Bosa for one of his characteristic city scenes, *Never Again*.

The Los Angeles County Museum held perhaps the largest regional exhibition of the year under the direction of William R. Valentiner and James H. Breasted. Total number of works submitted by 1,021 local artists amounted to 2,102. Of these 236 were admitted for exhibition, and a first prize of \$500 was awarded to Howard Warshaw.

Most sensational regional of the year was held at the Corcoran Gallery for "Artists of Washington (D.C.) and Vicinity." A jury consisting of Dorothy Grafly, Walter Stunpfeg, and Willis F. Woods selected only 20 out of 1,000 works submitted, and found only one of these worthy of a prize. They explained their unprecedented action in the following statement:

"The business of being an artist is a serious one. Thousands of people in the United States are painting. Only a few of them are artists. These few are scattered all over the country. Within the past 10 or 15 years, there has been such an increase in the number of amateurs that their work confuses the

art issue both for the public and the art jurymen who must sift from innumerable paintings of little merit, a handful that will stand a rudimentary test of craftsmanship.

"If the Washington and Vicinity Exhibition indicates a trend, it points up the existence of two poles in American art today—the art of the amateur, which occasionally has flashes of intensive originality, and the art of the skilled professional. Between the two poles lies a vast waste of mediocrity and imitation. If a regional exhibition is to be judged on the basis of quality, the accepted works will be found in the first two categories.

"The overbalance of the mediocre, however, is becoming so alarming and is so detrimental to art and artists in their relation to the public, that the jury feels its duty is to throw its weight on the side of honesty and knowledge."

The action brought about a Salon des Refusés, also at the Corcoran.

Painting. The disparity of opinion about modern art in America was well demonstrated in 1948 when, early in the year, *Look* magazine published the results of a survey it had made of leading museum directors, critics, and editors, asking them to name America's 10 foremost living artists. In order of majority choice, the following were named: John Marin, Max Weber, Yasuo Kuniyoshi, Stuart Davis, Ben Shahn, George Grosz, Franklin Watkins, Lyonel Feininger, and Jack Levine.

Yet only two of these artists, Davis and Levine, won prizes at any of the important annual exhibitions. Davis won a prize at the 59th annual watercolor exhibition held by the Art Institute of Chicago for his abstraction, *Ana*, and Levine won the Jennie Sesman Medal at the Pennsylvania Academy's 143rd annual for his *Apteka*, a characteristic city street-scene which had won a top prize at the Corcoran Biennial the year before.

The Carnegie Institute annual, formerly international and now limited to "Painting in the United States" chose a conservative jury to award prizes from the 300 paintings chosen by director Homer St. Gaudens. John Carroll, Alexander Brook, and Luigi Lucioni awarded the \$1,500 top prize to comparatively unknown Raphael Gleitsmann for his richly painted *Medieval Shadows*. Second prize (\$1,000) went to Andrew Wyeth for his *Christina Olsen*, a meticulously detailed portrait, and third prize (\$700) went to Carl Zerbe for *Actors*, a highly subjective painting by Boston's leading expressionist. The exhibition itself, however, ranged all the way from abstraction to illustration as is proper in a democratic country.

The National Academy's 122nd annual exhibition revealed a courageous effort to present all sides of the modern art question that vexed other institutions during the year. The top award Altman Prize of \$1,200 went to John Carroll for his portrait of Claire Luce as *Camille*, but the Obrig Prize went to John Heliker for an abstraction entitled *Perilous Night*. Other prize-winners were Raphael Soyer for *Seamstress*, Zsissly for *Yakuima Boy*, Martin Johnson for his metropolitan scene *Tintype*, Jacob Arkush for a solidly executed figure study called *Leona*, and Ruth Ray for *Navajo Land*, a western still life in the manner of Georgia O'Keeffe.

The Whitney annual once more illustrated its published intent of representing "the many diverse tendencies of the art of our times." As in former years, two galleries were set aside for completely abstract paintings by George L. K. Morris, Ralston Crawford, and others, while the other rooms were filled with paintings ranging from academicians Kenneth Hayes Miller's *Waiting for the Bus* to

left wing Ben Shahn's *Allegory*, a violent red wolf suckling the 20th century descendants of Romulus and Remus.

Prize-winners at Chicago's 59th annual watercolor exhibition reflected that Institute's determined recognition of "advanced trends" in art which it demonstrated by its wholly abstract exhibition of 1947. Top awards were given to native son Iven Le Lorraine Albright for his highly subjective painting, *Roaring Fork*, to Jacob Lawrence for one of his Negro *Migration* series, Karl Priebe for his expressionist *Lady with Bird*, Stuart Davis for an abstraction entitled *Ana*, Nicola Zirola for a two-dimensional portrait of *Man with Razor*, and an entire room was devoted to 16 watercolors and gouaches by Morris Graves, the West Coast painter whose sensitive pictures of shore birds were first shown at the Museum of Modern Art in 1942.

The Pennsylvania Academy's 143rd annual exhibition revealed the catholicity that is generally associated with this oldest of American annuals. As already noted, one prize went to Jack Levine, one of America's leading young expressionists, and another to Steve Raffo for a representational landscape, *La Cas de Dios*. Serving on the jury were Peppipino Mangravite, Louis Bouche, Bernard Karfiol, Richard Lahey, and Walter Stumpfeg.

The Virginia 6th Biennial of Contemporary American Paintings also presented a cross section of talent, and purchased paintings by Lamar Dodd, Henry Varnum Poor, and comparatively unknown Charles Augustus Smith. The *Art Digest* said of it, "Conservative painting is becoming less traditional, while the artists who have been exploring the modern trail have found their directions, and now are more concerned with refining their methods than with experimentation."

This gradual softening of the line between modern and academic was also highlighted by the National Academy's announcement in April of its newly elected members. Among the following names are bedfellows which a few years ago would have seemed strange indeed:

Painters: Alex Brook, Peter Blume, Louis Bouche, John Carroll, Edwin Dickinson, Ernest Fiene, Henry Mattson, Henry McFee, Henry V. Poor, Zsissly.

Graphic Artists: Fiske Boyd, Howard Cook, Lewis Daniel, Helen W. Heller, Rockwell Kent, John Menthan, Hans Mueller, Benton Spruance, Prentiss Taylor.

Watercolorists: Henry Gasser, Hardie Gramatly, Dong Kingman, Emo Kosa, Jr.

Sculptors: Jose De Creeft, Sylvia Shaw Judson, Henry Kreis, Ivan Mestrovic, Eleanor Platt, Carl Schmitz.

Sculpture. The Worcester Museum's exhibition, "Sculpture at the Crossroads" was the only notable sculptural event of the year. Opening in March, it revealed a carefully chosen group of work ranging from bronzes by Despiau to the stone carvings of Charles Cutler, one of America's most promising young sculptors. Its theme was more or less the same as implied in the criticism of the Virginia Biennial—that our younger sculptors have now assimilated the innovations that began with Rodin, and are now more concerned with content than style.

At the annual Whitney watercolor and sculpture exhibition, however, were many examples of experimental work. Seymour Lipton, Theodore Rosak, David Hare, and Herbert Ferber all showed a more than willingness to experiment in linear forms and unusual materials, making the modernism of Worcester exhibition appear academic.

The Sculptor's Guild staged a highly successful outdoor exhibition on Washington Square, exhibiting 60 pieces including *Aspiration* by Gwen Lux, which was commissioned by the Los Angeles Gallery of Associated American Artists. Others who exhibited included Harold Ambellan, O'Connor Barrett, Mark Friedman, John Hovannes, Margaret Bassler Kane, Warren Wheelock, Seymour Lipton, Mitzi Solomon, Jose DeCreeft, Louis Slobodkin, and William Zorach. An admission fee of 25 cents was charged.

Prints. The National Serigraph Society's 9th annual exhibition was this year thrown open to both members and non-members, and a distinguished jury of museum print curators was invited to make awards. Jurymen A. Hyatt Mayor (Metropolitan Museum), Una Johnson (Brooklyn Museum), and Carl Zigrosser (Philadelphia Museum) awarded first prize to Dorr Bothwell for a surrealist *Memory Machine*. Second prize went to Henry Mark for a semiabstract print entitled *Birds*, third prize to Frank Davidson for his linear *Oh Willie, Come Sell Your Fiddle*, fourth to Hulda Robinson for *Beacon*, and fifth to Marion Cunningham for his technically interesting *Scientific Expedition*.

The Library of Congress continued its policy of acquiring work from its "Prints of the Year" exhibition, purchasing 33 of the exhibited prints. Included among the artists whose works entered the Library collection were Benton Spruance, Arthur M. Capps, Lynd Ward, Ivan Le Lorraine Albright, Federico Castellon, Francis Chapin, Fritz Eichenberg, Ernest Fiene, Douglas Gorsline, Maurice Lasansky, and Zsissly. Arthur W. Heintzelman, well-known etcher and keeper of prints at the Boston Public Library was honored by the French Government, which awarded him the medal of the Chevalier de la Legion d'Honneur.

Most extensive, and in many ways the most interesting print exhibition of the year was the history of lithography exhibition arranged by A. Hyatt Mayor, new curator of prints at the Metropolitan, who succeeded William Ivins. Well-written captions and tastefully hung exhibits made what might have been a tiresome list of dates and methods into a fascinating show.

Acquisitions. The ancient complaint of contemporary artists that the museums buy only the work of their dead (and non-eating) predecessors was interestingly illuminated by an exhibition at the Colorado Springs Fine Arts Center under the direction of Fred Bartlett. Called "New Accessions U.S.A.," it opened on July 12 as the result of a questionnaire sent to American museum directors in an effort to discover the facts underlying their acquisition policies. Following are the questions and answers:

How many contemporary paintings purchased (or received as gifts) and how many were considered between June, 1947, and June, 1948? Answer: An average of 14 or a total of 420 out of 75,000 considered.

Of total funds available for all acquisitions, what percentage was spent for contemporary American painting? Answer: 5 to 41 percent.

What major obstacles toward the purchase of contemporary American painting have had to be overcome? Answer: Lack of funds.

Who made the decisions? Answer: Director and staff; only three complained of trustee antagonism.

Most spectacular acquisition of the year was that of the Boston Museum which acquired the entire Spaulding collection of modern masters, including Cezanne's *Turn in the Road*, Degas' *Father Listening to Pagans*, and Toulouse Lautrec's *Woman in a Studio*. In the collection are also 40

American paintings, including 10 by Winslow Homer. Boston also acquired in December what the *Art News* called the most important acquisition of the year, Titian's *St. Catherine of Alexandria*, formerly in the Escorial.

Art and Industry. Both La Tausca Pearls and the Pepsi-Cola Company suddenly announced the termination of their art competitions after completing highly successful exhibitions. La Tausca distributed \$6,750 in prizes to Nicholas Vasilieff, Stuart Davis, Charles Howard, Everett Spruce, and Yasuo Kuniyoshi. Pepsi-Cola was more generous in 1948 than ever before, awarding \$41,500 in prizes. Top winners were Michael Jamieson for a detailed landscape (\$2,500), Nan Laurie for her semiabstract *Blue Table Still Life* (\$2,000), Margaret Thompson for *The Assemblage* (\$1,500), and John Taylor for his landscape, *The Gulf* (\$1,000). Other paintings were purchased for the annual calendar, and each of the competing artists was given \$100 as a rental fee for his picture during the period it would tour on exhibition, an agreement reached the year before between the company and Artists Equity Association. Predictions of cynics that industry would stop buying art and awarding prizes as soon as the excess profits tax was abolished proved true.

Sales. The decreasing gulf between the very rich and the very poor that characterizes our economy was manifest in the year's record of art sales, which totaled \$5,228,218 at Parke Bernet, the leading auction house. This was \$1.5 million below the record total of 1945-46. Although some individual prices remained high, the increased number of middle-income buyers brought down the medium prices.

Gainsborough's *Portrait of a Young Girl* brought \$13,500; Constable's *Malvern Hall, Warwickshire*, \$8,700; Greuze's *L'Amoureux Desir*, \$8,000; Murillo's *Saint Justa*, \$8,000; Degas's *Trois Danseuses*, \$8,000; Jacob Van Ruysdael's *Wooded Landscape with a Stream*, \$4,000; and a Gilbert Stuart *Washington*, \$4,000.

Prices of modern art were reflected in Crowninshield and Whittemore sales with \$5,080 being paid for Monet's *Isles on the Seine at Port Villers*; \$5,000 for *Mary Cassatt au Louvre* by Degas; \$4,900 for *Le Bouquet d'Anemones* by Matisse; \$4,750 for *Mother and Child Before a Window* by Mary Cassatt, and \$4,200 for a landscape by Pissarro.

—JOHN D. MORSE

ASIA. The continent of Asia, including the Asiatic part of the U.S.S.R., has an area of about 16,752,600 square miles and a population estimated at 1,200,000,000. See separate articles on ARABIA, CHINA, INDIA, JAPAN, and the other Asiatic states.

ASSEMBLIES OF GOD, General Council of the. Incorporated in Arkansas in 1914 by a group of independent pastors devoted to evangelistic mission work. There are 6,000 churches, 6,200 pastors, and 253,016 enrolled members. The church maintains 12 Bible Institutes and Colleges, 1 home for retired ministers and missionaries, and 3 children's homes. Foreign missions have about 200,000 members in more than 50 mission fields served by about 650 missionaries. Income from contributions for home and foreign missions: \$2,219,700. Headquarters: 434 W. Pacific St., Springfield, Mo.

ASTRONOMY. The world's largest and most powerful telescope, the 200-inch Hale reflector on Palomar Mountain in California, was dedicated on June 3 in the presence of Mrs. George Ellery Hale and more than 800 scientists and invited guests. The

late Dr. Hale, whose vision and genius were largely responsible for the project, was also the founder of the Yerkes Observatory with its 40-inch refractor and the Mt. Wilson Observatory with a 100-inch reflector.

At the dedication, in an address entitled "The Challenge of Knowledge," Dr. Raymond B. Fossdick, President of the Rockefeller Foundation, stated "We need in this sick world the perspective of the astronomer. We need the detachment, the objectivity, the sense of proportion which this great instrument can bring to mankind. This telescope is the lengthened shadow of man at his best. It is man on tiptoe, reaching for relevancy and meaning, tracing with eager finger the outlines of order and law by which his little life is everywhere surrounded. There is nothing which so glorifies the human race, or lends it such dignity and nobility as the gallant and inextinguishable urge to bring this vast, illimitable complexity within the range of human understanding. In the last analysis, the mind which encompasses the universe is more marvelous than the universe which encompasses the mind. . . . So we dedicate this instrument today in humbleness of spirit, but in the firm belief that among all the activities and aspirations of man there is no higher peak than this."

Addresses were also made by Dr. Vannevar Bush, President of the Carnegie Institution of Washington, Dr. Max Mason, Chairman of the Observatory Council, Dr. L. A. DuBridge, President of California Institute of Technology, and Dr. Ira S. Bowen, Director of the Palomar Mountain and Mt. Wilson observatories. In commemoration of the dedication, the United States Government issued a 3¢ postage stamp showing the observatory building.

The construction of this mighty tool of science was truly a masterpiece of modern engineering, from the casting and grinding of the 200-inch diameter, 25-inch thick, 15-ton reflecting mirror, to the fabrication of the 60-ft.-long, 500-ton mounting driven by only a $\frac{1}{4}$ th h.p. motor, and the erection of the housing, 165-ft. high and 138-ft. in diameter, with its 1,000-ton rotating dome. No part of the instrument deflects more than $\frac{1}{4}$ th of an inch.

The focal length of the mirror is 666 inches, relative aperture $f/3.3$. The paraboloidal curve of its surface is within a few millionths of an inch of absolute perfection. Its optical range is 1,000 million light-years (the distance light travels during 1,000 million years at a speed of 186,000 m.p.s.), enabling astronomers to photograph stars of 22nd magnitude with an accuracy of .001 magnitude. This increase in telescopic power in the last 40 years is represented by a factor of more than one million in brightness and 20 in accuracy. With its surface area four times that of the 100-inch at Mt. Wilson, it will penetrate twice the distance and eight times the volume of space previously explored.

There remain yet several months of critical testing, and also adjusting of auxiliary apparatus, but it is expected that some time late in 1949 the world's greatest eye will be pronounced ready for the venture into realms beyond our present known universe.

What are some of the questions to which astronomers will seek answers with the 200-inch reflector? Dr. Edwin P. Hubble has given the following representative examples of the types of problems to be solved, which he states would alone justify the construction of the Hale telescope. The new instrument has greater power in three respects:

1. **RESOLUTION.** The so-called canals on the planet Mars could be photographed, if they exist, thus settling finally the question of whether there are, or have been, intelligent beings on that planet. Such photography will be possible because of the great "speed" of the mirror which will permit instantaneous exposures during the few brief moments of the extremely good visibility required.

2. **DISPERSION.** The relative distribution of chemical elements in the stars and throughout the universe is determined from spectra. The 200-inch reflector will obtain spectra of higher dispersion and resolution than ever before possible, revealing much new data concerning the sources of stellar energy, the origin of the elements, and the history and future evolution of the universe.

3. **DEPTH PENETRATION.** The 200-inch reflector will probe the depths of space to check on the distribution of galaxies and their apparent recession from our own position in space. It is not yet firmly established that this motion is a real one and indicates an expanding universe. Perhaps there is some unknown behavior of light itself which makes it appear more red when coming to us from these remote universes.

Dr. W. T. Skilling points out that the 200-inch reflector will not be used for anything that a smaller telescope can do. Its time will be jealously guarded for hunting big game of the universe. Its work will be largely recorded on photographic plates to be studied later by research specialists. The Hale telescope will bring into view about eight times as many stars, nebulae, and other celestial objects as can the 100-inch reflector. In addition, such objects as are already known may be studied in much greater detail because of the additional light collected from them. Previous long-time photographic exposures may now be considerably shortened, and in many cases instantaneous exposures made; the latter are not so much subject to the distortions due to atmospheric turbulence.

It is of course possible, perhaps likely, that the Hale telescope will raise more questions and problems than it solves, but man's thirst for knowledge cannot be quenched. With the 200-inch telescope astronomers will reach much farther for the clues hidden throughout our physical universe.

A fifth satellite of Uranus was discovered on February 15 by Dr. G. P. Kuiper of McDonald Observatory. This moon was detected on a photographic plate made with the 82-inch reflector. Its magnitude is 17, period of revolution about 30 hours, and distance from the planet about .64 that of Ariel, previously the innermost known moon of Uranus.

On February 18 a "daylight" bolide or exploding meteor was seen over Norton, Kans. Reports from persons in Colorado, Nebraska, New Mexico, Oklahoma, and Texas stated that the occurrence was ground-shaking and was followed by a terrific roar lasting ten seconds. A streak of blue-gray vapor remained visible for more than an hour. Many fragments of the meteorite, classified as an achondrite, were recovered. The largest piece, weighing about one ton, was acquired by the University of Nebraska and the Institute of Meteoritics of the University of New Mexico.

Two comets of special brilliance were seen this year. Comet Honda-Bernasconi (1948g) was discovered on June 2 in the constellation of Perseus. Between June and September its brightness diminished from 3rd to about 12th magnitude. It was closest to the sun on May 15, passing it at a distance of about 18 million miles.

The Great Comet of 1948 was first seen on No-

vember 6 by a number of observers in Australia. It was visible to the naked eye and situated in the constellation of Hydra. Its tail was reported as about 25° long, the brightness of its head about 2nd magnitude. This was the brightest comet seen in the northern hemisphere since Skjellerup's comet in 1927. The comet was rather favorably placed for observers in the southern United States, but was photographed from as far north as Troy, N.Y. It passed the sun on October 27 at a distance of 12 million miles.

Dr. H. W. Babcock of Mt. Wilson Observatory has discovered a strong magnetic field in certain stars of spectral class A. It is believed that this is the missing factor long sought in the explanation of the production of this type spectrum. Still unsolved are the questions of the variation in the magnetism, as well as the source of the field itself.

On February 26 the moon was televised with equipment at the Franklin Institute in Philadelphia. A 7-inch reflector telescope, $f/10$, was employed to deliver the image to the television camera. Astronomical phenomena had previously been successfully televised on Apr. 7, 1940, when the annular eclipse of the sun was transmitted from the RCA building in New York City using a 4-inch rich-field reflector made in the workshop of the New York Amateur Astronomers Association at the Hayden Planetarium.

New observations by Drs. Joel Stebbins and A. E. Whitford at Mt. Wilson show that distant galaxies are much redder than nearby ones, this reddening being in addition to the well-known red shift in spectrum lines due to recessional velocities. It has been tentatively suggested that the new effect might be due to absorption influences of material in the vast open spaces between the galaxies. In this research, use was made of the newly developed electronic photo-multiplier tube.

Recent additions or improvements in instruments include the following:

(1) A photo-electronic telescope employing a surface of (e.g.) cadmium which, under the effect of light, emits electrons. These electrons may be accelerated to increase the intensity of the desired light-signals while the sky background light and other unwanted turbulence may be scanned away. The telescope may be automatically guided and its images also televised for mass-production study.

(2) A new camera capable of taking 11 million pictures per second has been constructed at the University of Rochester by Dr. Brian O'Brien and Gordon G. Milne. While some definition is sacrificed for speed, the camera should be of especial help to solar physicists and others in recording transient phenomena of very short duration.

(3) Photo-electric guiding now in use on the 100-inch at Mt. Wilson operates on the principle of the rotating knife-edge, employing a 1P21 photo-multiplier tube. A part of the light from a star is reflected across a rotating half-disc at the focal plane. A photocell picks up the modulated light and activates a compensating mechanism to re-orient the telescope.

(4) Research work has been reported by scientists at the General Electric Company on the application of infra-red image tubes (Farnsworth 1P25) to astronomical telescopes. The tubes are made to change infra-red images into visible light. When such a tube is placed at the prime focus, it is claimed that planetary and moon images are seen with more steadiness since infra-red light is disturbed by the atmosphere less than visible light.

In contrast to Dr. R. A. Millikan's belief that cosmic rays originate in interstellar space and re-

sult from annihilation of atoms in collision, Dr. D. H. Menzel of Harvard Observatory suggests a new theory which places their origin in the local ion clouds near the earth. The ions receive long-wave radiation energy from the sun and in turn release showers of cosmic rays.

Following a recommendation of a committee of the American Astronomical Society, the U.S. Office of Naval Research has allotted \$50,000 for the support of some 20 projects in basic astronomical research, at 17 institutions, involving the work of about 30 astronomers.

A new model of the universe was proposed by Dr. G. C. Omer, Jr. of the California Institute of Technology. Dr. Omer assumes a non homogeneous distribution of matter which has, however, a spherical symmetry. He accepts the red shift in the spectra of galaxies as indicative of a recessional motion, but cautions that the shifts for the more distant galaxies have not been actually measured but merely extrapolated. The complete validity of the expanding universe has still to be established.

After an interruption of ten years, the International Astronomical Union again had a full session in Zurich, Switzerland, with nearly 40 commissions activated. The meetings, attended by more than 400 astronomers, were arranged by the Swiss Federal Observatory. Dr. Bertil Lindblad of Stockholm Observatory, Sweden, was elected President, and Dr. Bengt Stromgren, University of Copenhagen Observatory, Denmark, Secretary. Commission 39 reported the completion of specifications for the location and equipment of an international observatory and efforts to obtain a grant of \$50,000 from UNESCO to conduct a site survey.

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—GEORGE V. PLACHY

ATOMIC ENERGY. See NUCLEAR ENERGY.

ATOMIC ENERGY COMMISSION, The U.S. An administrative agency of the Federal Government, that continued during 1948, under the direction of the five original Commissioners, appointed by President Truman in 1946 and approved by the Senate in April, 1947. They were: David E. Lilienthal (Chairman), Robert F. Bacher, Sumner T. Pike, Lewis L. Strauss, and W. W. Waymack. Public Law 898, 80th Congress, approved July 3, 1948, as an amendment to the Atomic Energy Act of 1946, extended the terms of office of the Commissioners through June 30, 1950. [Commissioner Waymack resigned on Dec. 21, 1948.]

The Commission's principal areas of activity during the year were the production of the fissionable materials uranium-235 and plutonium; the development, production and testing of weapons; the conduct of a comprehensive program of research, including research directed toward the development of useful atomic power; and the construction of new research, production and housing facilities. At the end of the year, nearly 1,000 contractors, prime subcontractors and consultants were engaged in the work of the Commission.

During April and May, the Commission, with the assistance of the armed forces, conducted tests of three atomic weapons of new and improved design at the AEC Proving Ground at Eniwetok Atoll in the Pacific Ocean. As a result of the tests, which were executed under the technical direction of scientific personnel from the atomic weapons center at Los Alamos, New Mexico, it was announced that the position of the United States in the field of

atomic weapons had been substantially improved.

In the field of atomic power research, the Commission announced in September that two nuclear reactors for the study of atomic power production were under design, one for construction at the Argonne National Laboratory, Chicago, Illinois, and the other at the Knolls Atomic Power Laboratory, Schenectady, New York. A third reactor for general research use, scheduled for completion in 1949, was under construction at the Brookhaven National Laboratory, Patchogue, Long Island. Construction was also begun during the year on two new multi-billion-volt atom splitting machines, the largest in the world, to be located at the Berkeley Radiation Laboratory of the University of California and at the Brookhaven National Laboratory. They will be completed in from three to five years.

During 1948 the distribution of radioactive and stable isotopes from the Oak Ridge National Laboratory, Oak Ridge, Tennessee, was steadily increased. At the end of the year more than 180 varieties of Commission-produced isotopes were being used in 1,000 different medical and research projects at over 300 laboratories and hospitals in the United States and abroad. By December, 25 foreign nations had qualified to receive U.S.-produced isotopes under the Commission's program to share the benefits of nondestructive atomic energy with the rest of the world.

The Commission in 1948 continued to support a comprehensive research program in the atomic energy aspects of medicine, biology, agriculture and the physical sciences through contractual arrangements with private and governmental agencies, and established a fellowship program in co-operation with the National Research Council and a large number of universities and research institutions throughout the country. Under this program, more than 240 AEC fellowships had been awarded by December 31.

Production of fissionable materials continued during the year on a maximum-capacity basis at the plutonium plants of the Hanford Works, Richland, Washington, and the uranium-235 plants at Oak Ridge, Tennessee. To stimulate domestic discovery and production of uranium, the Commission in April established a program comprising a guaranteed 10-year minimum price for domestic refined uranium, a bonus of \$10,000 for the discovery and production of high-grade ores, and a guaranteed minimum price for low-grade ores of the Colorado Plateau.

Extensive new construction of housing and community facilities was started during 1948 at the Commission's townsites at Richland, Los Alamos and Oak Ridge, and major construction of technical facilities was carried on at the Mound Laboratory, Miamisburg, Ohio, the Hanford Works, and the Argonne, Brookhaven, Knolls, Los Alamos, and Radiation Laboratories. —MORSE SALISBURY

AUSTRALIA. A self-governing dominion of the British Commonwealth of Nations, consisting of 6 states and two territories. The Commonwealth of Australia also has administrative control of Papua, Norfolk Island, the Ashmore and Cartier Islands, the uninhabited Australian Antarctic Territory, the Territory of New Guinea (UN Trust Territory) and Nauru (UN Trust Territory). Capital, Canberra.

Area and Population. Australia proper has a total area of 2,974,581 square miles and a population (census June 30, 1947) of 7,580,820. On the same date the population of states and territories was as follows: New South Wales, 2,985,464; Victoria,

2,055,252; Queensland, 1,106,269; South Australia, 646,216; Western Australia, 502,731; Tasmania, 257,117; Northern Territory, 10,866; Australia Capital Territory, 16,905. Chief cities: Sydney, 1,484,434; Melbourne, 1,226,923; Brisbane, 402,172; Adelaide, 382,604; Perth, 272,586.

Education and Religion. Elementary education in Australia is free and compulsory from 6 to 15 years of age. State school systems are supplemented by denominational and undenominational private schools. Each of the 6 states has a university in its capital city, with affiliated residential colleges conducted for the most part by the chief religious denominations.

The chief religious denominations at the census of 1933 were: Church of England, 1,143,493; Roman Catholic, 556,106; Presbyterian, 257,522; Methodist, 203,042.

Production. Australia is the world's largest producer of wool and accounts for approximately 25 percent of world production. Wheat and meat are the other important products of the land and, with wool, make up the country's chief exports. The 1947-48 harvest of wheat totaled 228,390,000 bushels, exceeding the record crop of 1932-33 by 6.3 percent. The average yield per acre was 16.30 bushels. Meat produced amounted to 906,000 metric tons in 1947. Dairy products are also important. The 1947 wool clip was valued at \$180,000,000.

Manufacturing was stimulated by World War II to the extent that the country has recently been able to meet many of its domestic requirements. Value of output in 1945-46, £A886,004,777. Coal and gold are the most valuable mineral products.

Foreign Trade. In the year 1947-48 Australia had a favorable commodity trade balance, with exports at £A406,218,000 and imports at £A338,241,000. With the dollar areas of the United States and Canada there was a deficit of £A41,937,000. About two-thirds of the sales to the United States and one-half of those to Canada were wool. Britain remained Australia's best customer and largest source of supply. Australian butter and meat went almost entirely to Great Britain. Principal imports from the United States were textiles, metals and metal manufactures, machinery, and petroleum products.

Finance. The financial year ended June 30, 1948 showed record revenue of £A466,000,000, with a small surplus of about £A1,000,000 instead of the anticipated deficit of £A30,000,000. This was the first surplus since 1939-40. National income in 1947-48 was £A1,571,000,000, an increase of 24 percent over the preceding year.

Transportation. At the end of 1946 Australia had more than 27,000 miles of government-owned railways and a few miles of privately-owned lines open for general traffic. An act passed in 1946 provides for the opening of a north-south railway and the conversion of the various gauges used by the separate states to standard-gauge track. There were 33,719 miles of regular air services. Net tonnage of registered shipping was 311,931.

Government. Executive power is vested in a Governor General appointed by the Crown and in a ministry responsible to the Federal Parliament. Both Houses of Parliament were enlarged by 1948 legislation: the Senate from 36 to 60 members and the House of Representatives from 75 to 121 members. The method of electing Senators, 10 from each state, was changed to proportional representation. Governor General, William J. McKell; Prime Minister, Joseph B. Chifley, Majority party, Labor.

Events, 1948. Australia's Minister for External Affairs, Dr. Herbert V. Evatt, was abroad for a con-

siderable part of the year, acting in behalf of his government in international discussions. Evatt was elected President of the United Nations General Assembly in Paris on September 21. In that capacity he appealed directly to the heads of the United States, British, French and Soviet Governments on November 13 to undertake direct conversations to end the disputes over Berlin. In this and related appeals he acted jointly with Trygve Lie, Secretary General of the UN. Prime Minister Chifley, speaking in Canberra November 15, supported Evatt's methods, but American representatives took other positions. On November 22 Australia offered a resolution asking for reconsideration by the Security Council of the applications of five countries, including Eire, for membership. All five applications had been vetoed by Soviet Russia.

In October Australia gave the United Nations \$1,127,000 as part of that country's contribution to the UN Appeal for Children, with the promise that the campaign in Australia would be continued. An agreement by which Australia would supply Poland with raw wool to the value of £A350,000 was signed at Lake Success on June 3. Poland was the first country to accept Australia's offer to supply wool to European countries under the United Nations General Assembly's post-UNRRA program.

Earlier Evatt opened the first meeting of the South Pacific Commission in Sydney in May, and headed his country's delegation to the meeting of Commonwealth Prime Ministers in London November 11-22. Prime Minister Chifley, who was in London for a few days in July, conferring with Prime Minister Attlee and other ministers, was not able to return at that time.

In August Australia was requested by the UN Trusteeship Council to give the people of the trust territory of New Guinea more chance at self-government and a larger share of economic and social benefits. It was also suggested that Australia's much-debated proposal to combine New Guinea with Papua in an administrative union might be referred to the International Court of Justice. In Australia the United States' proposal for the international control of Antarctica produced conflicting views. Evatt opposed it, but Minister of Finance Dedman preferred control by a condominium provided that the United States took a major part.

Commonwealth Relations. The calling of the conference of the Commonwealth Prime Ministers in London on October 11 was a matter of deep satisfaction to the Australian Government. The Government for some time had been urging a stronger Commonwealth. Evatt insisted in speeches and broadcasts that with the addition of India, Pakistan, and Ceylon the Commonwealth was in a new stage of development and that a review of the whole machinery of cooperation was desirable.

Evatt took an active part in the conference. With St. Laurent of Canada and Fraser of New Zealand, he brought to Chequers two Irish Ministers to discuss with the old Dominions and with Britain in the person of Prime Minister Attlee the implications for Commonwealth trade preferences of Eire's proposed severance of all links with Great Britain. Again in the middle of November the representatives of the Eire Government were persuaded to go to Paris for conferences with Evatt (Deputy Prime Minister of Australia) and the others.

Australia's deep reliance on Commonwealth ties showed itself again when it was observed that the final statement of the Conference of Commonwealth Prime Ministers failed to contain the word "British." Press and public gave signs of shock and

disappointment; and it was reported that some Australians were saying openly that they would rather have a small, closely-knit Commonwealth to which the word "British" was applicable than an amorphous group including hundreds of millions of Asiatics to whom the word and its associations were alien.

It was significant that Prime Minister Chifley soon made two public statements on the issue. One was on October 29, when he said that Australia itself was unlikely to drop the word "British" from its references to the Commonwealth. Another was a broadcast on November 7, in which Chifley urged his countrymen not to get "worked up" about proposed changes in the Commonwealth. The Prime Minister argued that the reality behind the changing forms was the willingness of purely British units to work closely with the others.

The conference as a whole was a disappointment to Australians, for it produced no signs of closer ties. However, the announcement on November 8 of an agreement between five Commonwealth countries (including Australia and New Zealand) with Japan for exchanges of £20,000,000 worth of trade in 1948-49 was expected to ease the anxieties of those who had not known of the negotiations.

The cancellation of the Royal Family's proposed visit to Australia in 1949 because of King George's illness was a deep disappointment to Australia, for the visit had promised to cement the bond so highly valued in the Dominion. Chifley, in telegraphing his sympathy, urged the King to give first consideration to his health.

Aid to Britain. The first conspicuous gift of the year came from the tiny island of Nauru (8½ sq. mi.) a trust territory inhabited by 1,400 people. The head chief of Nauru sent Prime Minister Chifley £A700 for the purchase of food for Britain. Chifley, in announcing the gift on January 20, described it as "magnificent."

Australia continued to ration butter and to prohibit the consumption of cream in order to maintain exports of those commodities, 90 percent of which went to Britain and 10 percent to destinations named by Britain. In January a British food mission went to Canberra to plan for future food contracts. An egg export agreement was soon announced, and in September a British contract to buy all Australia's butter and cheese for the 7 years ending June 30, 1955, was made public. Increased prices were to be paid, and shortly afterwards the prices of frozen meats were also raised.

In September the House of Representatives voted a grant of £A10,000,000 to Britain, in view of Australia's fortunate sterling position. The grant was praised by ECA Administrator Hoffman as helpful for the recovery of Europe.

Dollar Shortage. Australia continued in 1948 the steps to reduce dollar imports begun in 1947. After June 30 imports of clothing, sheeting, and rayon dress materials were banned, except industrial cloths used in Australian manufacture. Only the cheapest types of American automobiles were permitted to enter, so that the amount available could cover more cars. Chifley told the House of Representatives in September that he had had to reject some American companies' offers to invest capital in Australia because Australia lacked the dollars necessary for plant, payments of royalties to parent companies, and dividends.

When New Zealand restored the pound to parity with the British pound in August, Australia declined to take the corresponding step partly on the ground that the country's dollar shortage did not

permit the discouragement of exports, especially in the primary production field, or the encouragement of imports. The question was raised repeatedly, however, and again on November 23 Prime Minister Chifley assured the House of Representatives that Australia contemplated no change.

Referendum Defeat. The Commonwealth Government was decisively defeated in the May 29 referendum which would have transferred from the States to the Commonwealth the power to control prices and rents. The "No" vote of 2,119,818 carried a majority of 579,821, and in all of the six states the proposal was turned down. The vote was "No" in Chifley's and Evatt's constituencies and strongly so in the states with Labor Governments: New South Wales, Queensland and Tasmania.

Prime Minister Chifley had threatened to withdraw price-stabilization subsidies if the Commonwealth Government lost its power of price control. This was soon done, and by the end of August all federal subsidies were gone except those on butter, tea, and superphosphates.

In August the states agreed on a list of 30,000 items, representing 60 percent of those controlled by the Commonwealth, which would be released from price control on September 20 when the Commonwealth left the field. Commodities which were still controlled included meat, bread, flour, butter, sugar, and a number of other foods. Meat and clothing rationing was discontinued in June. On the other hand gasoline rations were cut by one-fifth on October 1.

Another dispute between the Commonwealth and State Governments was that connected with taxation powers. The Premiers of the State Governments met with the Prime Minister on August 23 to request £A60,000,000 to help balance their budgets, and protested against the Commonwealth's monopoly of the income tax. On the first issue they were rebuked for not having improved their revenues (except in New South Wales) by increasing railroad rates, and were told that all they could have was £A54,000,000. On the second point they were informed that the Commonwealth would never give up its monopoly.

The session of Parliament which opened on September 1 was given over in large part to the budget. The budget proposed by Chifley, who was Commonwealth Treasurer as well as Prime Minister, lowered income taxes, corporation taxes, and sales taxes, but increased the expenditure estimates for the social services. Since the national income was rising and the preceding budget showed a surplus, these changes were possible.

Bank Nationalization Dispute. In February the High Court began its hearings on the constitutionality of the 1947 legislation nationalizing the commercial banks (see *YEAR BOOK* for 1947, p. 44). The suit was brought by the State Governments of Victoria, South Australia, and Western Australia and by 11 private trading banks. The judgment, delivered on August 11, declared so much of the legislation invalid as to make it inoperative and an injunction was issued restraining the Commonwealth Government from putting the legislation into effect.

Few recent issues had so shaken Australia as the bank nationalization act. Opposition Leader R. G. Menzies probably overstated the situation, however when he said, commenting on the High Court's decision, "Many Labor members of Parliament have cursed the day when bank nationalization was introduced." Prime Minister Chifley, who had appeared to take a deep personal interest in the bank nationalization act from the moment of its incep-

tion, was not willing to accept defeat. The Federal Government decided to appeal the case to the Privy Council in London, although it was against the traditional policy of the Australian Labor Party to take its problems outside Australia.

The Government's action was immediate. A copy of the judgment was at once sent to Paris for Evatt, who combined the duties of Attorney General with those of External Affairs and Deputy Prime Minister. Solicitor General Bailey left for London on August 19 to meet Evatt and confer on the details of the appeal, the first step of which was to obtain leave to appeal. On November 11 special leave to appeal was granted to the Commonwealth of Australia and the Commonwealth Bank of Australia by the Judicial Committee of the Privy Council in London.

Other Socialization Measures. The Commonwealth Government's free medicine plan went into operation on June 1, after a four-year boycott by the Australian British Medical Association, which protested against the limitation of the drugs and medicines that could be prescribed and against the severe penalties for breaches of routine. On November 24 a bill was introduced in the Senate outlining national health services but leaving the details for further legislation.

Legislation for the establishment of a Commonwealth Government shipping line was being drafted at the time of the opening of Parliament on September 1, but the date of its completion was uncertain. Chifley told New South Wales coal miners in September that the Government had neither the power nor the intention to nationalize the coal mines as long as they were giving good service under private control. In announcing its proposal to transfer broadcasting to a new board, Chifley denied any intention to socialize commercial broadcasting.

Immigration. Australia's goal of 70,000 immigrants a year was energetically pursued in 1948. Minister of Immigration Calwell worked with the British Ministry of Transport and the steamship lines until he had a promise of transportation for 72,000 persons in 1949. In October 17 vessels, including four carrying migrants exclusively and 6 under charter to the International Refugee Organization, were moving 14,000 immigrants to Australia.

Australian representatives were sent to Italy to study the situation there, with respect to the Australian plan of absorbing 200,000 refugees over a period of years. Italian migrants were already on their way to Australia in the autumn, but a general proportion of two British migrants to one of other nationalities was planned. In the House of Representatives in June Evatt said that no change in the "White Australia" policy was contemplated.

—ALZADA COMSTOCK

AUSTRALIAN LITERATURE. Although the Australian publishers during 1948 felt the pinch of high costs, the year was fairly productive of significant, worthwhile books. Writing of esthetic intent was perhaps not as rich as it often has been in recent years, but the number of books dealing with politics and social affairs was unusually large. Much energy was put into bringing standard books back into print.

Before discussing important books of 1948, a few which escaped the net in the account of 1947 should be noted: *Aranda Traditions* by T. G. H. Strehlow was a valuable anthropological study, *Lachlan Macquarie* by M. H. Ellis was a major biographical study, and *Public Libraries in Aus-*

tralia by L. R. McColvin was the most important critique since the Munn-Pitt report of 1935.

Current Events. Several books of 1948 dealt with international affairs on a strikingly high level. Dr. Herbert Vere Evatt in *The United Nations* (orig. pub. Cambridge, Mass.) offered an historical critique of great importance. W. Macmahon Ball, formerly Commonwealth representative on the Allied Council for Japan, in *Japan: Enemy or Ally?* studied occupation policies and criticized some developments severely. Paul Hasluck, formerly Counsellor-in-Charge of the Australian Mission to the UN, offered a critical account of the work of the UN, particularly the Security Council. Only a shade less notable was *Near North: Australia and a Thousand Million Neighbors*, edited by R. J. Gilmore and Denis Walker, a free-running account of affairs in South and Southeast Asia by a company of journalists. Closely related to current international affairs was John M. Ward's *British Policy in the South Pacific, 1786-1893*, which serves admirably to explain the background of Australia's Pacific islands policy.

A miscellany of books on domestic affairs appeared. J. MacDonald Holmes' *The Murray Valley: A Geographical Reconnaissance* was a full-dress study of the largest irrigable area in Australia, somewhat controversial in character. *Australian Government Today* by Geoffrey Sawyer admirably covered the subject announced in the title. *Decentralization*, by various hands, examined a problem which many Australians feel has special urgency. A. G. L. Shaw and G. R. Bruns once more studied the coal problem in *The Australian Coal Industry*. J. S. Maslin's *Hagley, the Story of a Tasmanian Area School* was an important study of an educational experiment. H. C. Trumble's *Blades of Grass* was the fascinating autobiography—notebook of a grasslands expert.

History. In the field of history, in addition to John Ward's outstanding volume, there was *Edmund Barton* by John Reynolds, a biographical study of a distinguished father of the Commonwealth constitution and the first Commonwealth Prime Minister, somewhat "preliminary" in character but nevertheless valuable; Malcolm Uren's *Land Looking West: The Story of Governor James Sterling*, a distinguished contribution to the history of the founding of West Australia; *A Century of the English Church in New South Wales* by E. C. Rowland; and *Social Services in Australia 1900-1910* by T. H. Kewley, which provided the indispensable historical background of the present-day services.

Roy Bridges' *That Yesterday Was Home* was a reminiscent volume built around the story of a Tasmanian family; C. E. W. Bean's *Gallipoli Mission* was an account of a close study of the World War I battleground three years after the fighting had ceased; and *They Struck Opal* by E. F. Murphy was a reminiscent volume about the mining of the beautiful, semi-precious stone. An outstanding compilation of historical documents was Geoffrey Sawyer's *Cases on the Constitution of the Commonwealth of Australia*. Frances McGuire's *The Royal Australian Navy* discussed "its origin, development, and organization."

Wallumetta by M. C. I. Levy was a notable local history of a New South Wales municipality. Professor George Mackaness added *Memoirs of George Suttor 1774-1859* to his growing series of reprints "Historical Monographs." Much material relating to Australia's part in World War II appeared in memoirs of and by American leaders, for example Eisenhower and Hopkins.

Fiction. In literature, Katherine Priehard continued her notable trilogy on the West Australian gold fields in *Golden Miles* but showed acute signs of wavering disastrously between fiction, social history, and left-wing politics. *I Camp Here* by Esther Roland was a rather conventional novel of station life that gained a literary prize. Joan Colebrook's *The Northerners* (orig. pub. N.Y.) introduced a new talent to the reading public. *The Dupe* by Robert Close was another of his vivid but brutal novels of the sea. The American edition of Tom Collins' *Such is Life* (Univ. of Chicago), with an afterword "About Tom Collins" by C. Hartley Grattan introduced that formidable writer to the American audience for the first time. A hitherto unknown Collins manuscript was revealed in *The Bulu-Bulu and the Brologa*. The annual sampling of short stories *Coast to Coast* held no surprises.

Poetry, Drama, Miscellany. In poetry Ernest Moll added *The Waterhole* to his lengthening list of distinguished volumes; Francis Webb revealed a robust talent for the first time in *A Drum for Ben Boyd*; and the annual poetry anthology *Australian Poetry, 1947* showed that the Australian Parnassus was still numerous inhabited. Lionel Shave's *Five Proven One-Act Plays* further expanded the printed drama available and revealed a vivid talent. Far and away the most important autobiographical volume by an author was H. H. Richardson's posthumous *Myself When Young* (orig. pub. N.Y.). In *The Flesh and the Spirit* Douglas Stewart collected his book reviews and occasional articles to form a vigorous volume of literary criticism.

Much writing of first-class importance in all fields continued to appear in the magazines. A guide to all of it relevant to the study of public affairs is to be found in *Australian Social Science Abstracts* which reached No. 5 in September, 1948.

—C. HARTLEY GRATTAN

AUSTRIA. A republic in central Europe, under the control of the Allied Council (composed of the four commanders-in-chief of the occupying powers: General Emile-Marie Bèthouart, representing France; Col. Gen. V. V. Kurasov, representing the U.S.S.R.; Lt. Gen. Sir Alexander Galloway, representing the United Kingdom; Lt. Gen. Geoffrey Keyes, representing the United States). Area, 32,388 square miles. Population in 1947, including displaced persons but excluding those in camps, 6,935,000. Population in October, 1947, of chief cities: Vienna, 1,667,438; Graz, 220,100; Linz, 173,330; Salzburg, 106,919; Innsbruck, 95,365.

Production. Preliminary figures for yields of chief crops for 1947 in metric tons: potatoes, 1,095,018; rye, 216,467; wheat, 170,141; oats, 175,337; barley, 95,439. Livestock in the country as of Nov. 18, 1947: cattle, 2,158,000; pigs, 1,724,000; sheep, 474,000; goats, 310,000; horses, 283,000. Austrian agricultural production has been declining in recent years. The monthly average output for 1947 in thousands of metric tons of principal minerals: coal, 14.8; lignite, 236; iron ore, 73.7. In 1946 crude oil production was 846,000 tons. Austrian industrial capacity is estimated to be 60 percent larger than in 1937, thanks to the establishment in Austria of various German war industries. Much of this increased capacity, however, cannot be used because of lack of markets and raw materials. Austrian agricultural production supplied 75 percent of Austrian needs in 1937 and now supplies only 40 percent, chiefly because price levels supply no incentive for capacity production. The 60 percent deficit in Austria's foodstuffs is largely supplied by the United States.

Foreign Trade. In 1947 imports were valued at 99.3 million schillings and exports at 70.2 million schillings. Import items included fuels, vegetables, cotton, iron products, sugar, and seeds. Included in the export items were iron goods, ores, glassware, firebricks, chemicals, and magnesite. The chief trading countries were Switzerland, Czechoslovakia, Italy, United States, Hungary, and France.

Communications. Highways had a total mileage of 54,000 in 1946. There were 275,139 telephones in 1947. It is intended to electrify the entire railway system of the country; the plan will take 12 years to complete.

Finance. Note circulation, Nov., 1947, was 6,038 million schillings. Oct. 7, 1946, the National Bank of Austria showed assets and liabilities of 12,560.65 million schillings. With 1937 as 100, the cost of living index figure of July, 1948, was 454. Occupation costs were reduced during 1948 from 33 percent to 10 percent of the State budget, thanks largely to the policy of the United States which has paid its own occupation expenses since July 1, 1947.

Government. The Constitution of Dec. 27, 1927, is the legal basis of the Austrian Republic. The President is elected for a six-year term by popular vote. His important powers are limited to the appointment of the Federal Chancellor and the Cabinet Ministers, the convening and closing of sessions of the Lower Chamber and the issuance of ordinances in times of emergency. The Federal Chancellor is the responsible head of the Executive government. The Legislature comprises the Nationalrat (Lower Chamber) of 165 members elected for four-year terms by proportional representation, and the Bundesrat (Upper Chamber) of 50 members chosen by the provincial legislatures in proportion to population. President: Karl Renner (Socialist); Chancellor: Leopold Figl (People's Party); Vice-Chancellor: Dr. Adolf Schaerf (Socialist).

Events, 1948. Austria, like Germany, became more than ever during 1948 a bone of contention and a weapon of power politics in the "cold war" between East and West. Vienna, like Berlin, was a city of ruins, divided among 4 Powers. Like Berlin, it was surrounded by Soviet occupation forces—with all of its airfields, however, under Soviet control. Unlike Berlin, it was not subjected to the ordeals of "blockade" and "airlift." Quadripartite administration continued to function after a fashion, since neither of the major antagonists undertook to set up a separate "government" in its own sphere or a rump municipal regime in its own area of the capital.

American-Soviet agreement on an Austrian treaty was almost, but not quite, achieved in the spring. Thereafter the exigencies of the contest of the giants condemned Austria to continued foreign occupation, to Soviet pressure, and to the blessings of American charity. Despite these unhappy circumstances, Austria's alien rulers abstained from open conflict within her borders and Austria's people displayed a high capacity for patient endurance, political stability, and limited economic recovery. But Austrians had little more hope at the end of the year than at its beginning for surcease from frustration, since no such boon was possible so long as Moscow and Washington were everywhere else at swords' points.

Soldiers and Schillings. Late in 1947 Minister Ferdinand Graf, speaking in Salzburg to the Great Powers, voiced the ardent aspirations of all his countrymen: "Go back to the Volga, go back to the Mississippi, and leave us on the Danube. Austria is no football ground where a game between

East and West is played. So play without us. . . . You cannot force us into a golden dictatorship of the West, nor into a political dictatorship of the East. Austria will be the fortress of the middle. . . . In Communist States, it is permitted only to work, not to strike. In capitalist States, it is permitted only to strike and not to work. We want neither . . ."

Such dreams remained unfulfilled. Austria continued to subsist on American aid. The only notable achievement of the coalition Cabinet of the People's Party and Social Democrats was the avoidance of a galloping inflation. A second currency reform, promulgated on Dec. 9, 1947, with the assent of the occupying Powers, reduced money in circulation by almost 50 percent. Prices on the black market declined. Living costs increased but slightly during the year. But so long as low food prices discouraged full agricultural production, with the United States supplying the deficit, the prospect of economic self-support remained dismal. Hope of a viable democratic socialism was even more remote, with socialization postponed by the American-Soviet deadlock and democracy surviving only by virtue of the precarious equilibrium between conservatives and liberals.

Almost a Treaty. Despite the stalemate registered at the Moscow and London meetings of the Council of Foreign Ministers in 1947, the deputies of the Foreign Ministers, gathered in London (February 20 to May 6, 1948) to consider a pact for Austria, made remarkable progress toward an accord. The apparently irreconcilable positions of Britain and America on the one hand and the Soviet Union on the other regarding the vexed question of "German assets" in Austria seemed likely to be settled through French formulas of compromise put forward late in 1947. On the basis of these proposals, Moscow suggested, in lieu of all "German assets" in Eastern Austria claimed by the U.S.S.R. under the Potsdam agreement, that it be granted a 50-year claim to two-thirds of East Austrian oil production, the Balkan assets of the Danube Shipping Company plus 25 percent of its properties in Austria, and \$200,000,000 as a settlement of all other claims, to be paid within two years in freely convertible currency. After much bargaining and sundry concessions on both sides, the deputies agreed that the U.S.S.R. should receive \$150,000,000, to be paid over six years, and 60 percent of oil production for 30 years.

The Kremlin, having consolidated its position in Central Europe by the Czechoslovak coup of late February, was apparently willing to consider withdrawal from Austria through the conclusion of a treaty—the more so as the morale of its troops in Vienna left much to be desired. But the Western Powers, being alarmed by events in Prague, became increasingly reluctant to evacuate Austria. An accord might still have been reached save for Tito's insistent claim for \$150,000,000 in reparations from Austria and for annexation to Yugoslavia of part of Southern Carinthia. When the full story of these developments is told, it will almost certainly become clear that Moscow opposed Belgrade in these matters, and also in the matter of Trieste, but encountered inflexible opposition from the Yugoslav Communist regime. This in turn led to the Cominform denunciation of Tito in June and to the masking of Soviet-Yugoslav diplomatic conflicts behind a confusion of ideological and institutional quarrels having nothing to do with the actual sources of discord.

The consequence, meanwhile, was the breakdown of negotiations in London for an Austrian

treaty. This result was not due primarily to American-Soviet friction in Vienna—e.g. Soviet confiscation in mid-February of the German edition of James F. Byrnes' book *Speaking Frankly*, Kurasov's denunciation of Western "imperialism" a week later (causing Anglo-American representatives to leave the meeting), and the wounding of an American military policeman (Pfc. Jack Gaunden) by a Soviet guard on March 8 in front of Russian HQ in the Grand Hotel. The diplomatic deadlock was rather attributable to Western eagerness to avoid a settlement, complicated by the Belgrade-Moscow feud.

On May 6 Soviet Deputy Nikolai P. Koktomov felt obliged to support the Yugoslav claims. On the same day, on the initiative of the U.S. representative, Samuel Reber, discussions were temporarily suspended, after 110 meetings on an Austrian treaty. Foreign Minister Karl Gruber returned to Vienna. Chancellor Figl declared that the suspension "destroys all our hopes for an early conclusion of the independence treaty."

Austrian hopes were briefly revived by the exchange of communications in early May between Molotov and Bedell Smith. On May 24, however, Reber asserted that the parleys would be postponed indefinitely. Available evidence suggests that this decision was due less to Soviet intransigence than to extensive Soviet concessions which threatened to make an agreement unavoidable. The Government and people of Austria, along with many others throughout the world, thus remained victims of the refusal of the U.S.A. and the U.S.S.R. to come to terms, with each Super-Power justifying its obstinacy in terms of solicitude for "saving" innocent bystanders from the evil designs of the other.

Menace from Moscow. If the American-Soviet global struggle did not subsequently assume in Austria the shape exhibited in Germany, Greece, China, and Korea, this relatively fortunate state of affairs was not due to any reciprocal desire for accommodation but rather to a calculation on both sides that more was to be lost than to be gained by converting the Ostmark into another arena of battle. Washington could win no advantages by splitting the Vienna coalition of Socialists and Populists. Both groups favored extensive nationalization of industry—elsewhere opposed in principle by the U.S.A., and in Austria precluded in practise by Soviet determination to keep control of major enterprises in the Eastern zone. Moscow could win no advantages by giving open support to the Austrian Communists, since they remained an insignificant political force, with no popular following. Their only representative in the Cabinet, Karl Altmann, had been forced to resign in November, 1947.

The ensuing stalemate was nevertheless characterized by continued Soviet harassment of the Vienna Government for its "pro-Western" orientation. Early in June, while pro-Communist Socialists met in Warsaw, anti-Communist Socialists met in Vienna and condemned the Soviet brand of "people's democracy" in accordance with the views expressed by Julius Deutsch and Vice-Chancellor Adolf Schaerf. A fortnight later Gen. Kurasov accused Minister of Power Alfred Migsch (Socialist) of "war-mongering" and "slander" against the U.S.S.R. On June 17 Anton Marek, a Chief Police Inspector in the Ministry of the Interior, was arrested by Russian authorities on a charge of "espionage." Gen. Keyes declared that such Soviet arrests by "Gestapo methods" were intended to cover up "possible Communist subversive activities

or illegal armed formations"—referring to the *Werkschutz* or "black brigades" guarding Soviet-controlled factories. Kurasov rejected the allegation as "a base insinuation." Further "kidnappings" followed, to the tune of Soviet charges that the U.S.A. was hiring Austrian "spies" and was enslaving the country under the E.C.A. agreement signed in June.

Mr. W. B. Willcox, head of the E.C.A. in Austria and a former partner of Dillon, Reed and Company, expressed the hope in August that Austrian trade with the Eastern nations could be increased. Despite new commercial accords with Yugoslavia and Hungary, no substantial trade materialized. In October the Western Powers rejected Soviet proposals for recognition of the "Democratic Union" as a fourth political party in Austria. At the same time the Social Democrats expelled Edwin Scharf, a pro-Soviet leftwinger. Consideration began to be given in Washington to arming Austria for defense against the danger of a Communist putsch.

The delicately balanced relations among the occupation authorities were exemplified by a murder mystery toward the close of the year. On the last day of October the body of Irving Ross, an American E.C.A. official, was found in a wrecked jeep in the Russian sector of Vienna. Near by was a badly beaten woman, Anna Superina, who asserted that four men in Russian uniform had slain Ross and thrown her out of the jeep. Soviet authorities took over the investigation, amid dark hints of espionage—but with no solution announced by year's end. American and Austrian authorities dealt gingerly with this and other incidents, lest Vienna be converted into another Berlin. In December the Austrian cabinet proposed the resumption of negotiations for a treaty. Whether either Washington or Moscow was prepared to resume serious discussion over Austria was unclear. See GERMANY, HUNGARY, ITALY, YUGOSLAVIA, U.S.S.R., and UNITED STATES.

Consult: Winifred N. Hadsell, "Austria Under Allied Occupation," *Foreign Policy Reports*, Nov. 1, 1948; U.S. High Commissioner, *Military Government: Austria*, HQ, U.S. Forces in Austria, May, 1948; Karl Renner, "Austria: Key for War and Peace," *Foreign Affairs*, July, 1948; Department of State, *The European Recovery Program: Austria*, 1948.

—FREDERICK L. SCHUMAN

AUTOMOBILE RACING. The fastest and one of the safest 500-mile races in history was won by Mauri Rose on May 31. A crowd of 175,000 left the Indianapolis Speedway without having been offered a single major accident for the entire 4 hours, 10 minutes, and 23.38 seconds of the race. Rose's average speed for this 32nd annual meeting was 119.813 m.p.h., an all-time record. Second place went to Bill Holland, with an average time of 119.147 m.p.h.; third to Duke Nalon, 118.034; fourth to Ted Horn, 117.844; all four men breaking the existing speed record for the event. The winning automobile was a Blue Crown Special.

The 35th Grand Prix road race of the Automobile Club de France, 500.204 km. on the Reims-Gueux road, was won on July 18 by Jean Pierre Wimille of France, driving an Alfa Romeo at an average speed of 165.099 km.p.h. Italy's Mille Miglia, a 1,000-mile road race in a huge figure eight over most of the Italian countryside, was won on May 8 by Clemente Biondetti of France, driving a Ferrari car at an average speed of 75 m.p.h. There was only one fatality in the race this year.

On May 18 in London an American syndicate

introduced midget auto racing to Britain, attracting a crowd of 50,000. On June 6 in Milwaukee Emil Andres won the Automobile Association of America national championship 100-mile big-car race. Mack Hellings was second and Ted Horn third. On June 20 at Langhorne, Pa., Walt Brown won the AAA-sanctioned 100-mile dirt-track championship, with Mack Hellings finishing second once more and Emil Andres third. Rex Mays, who in the Milwaukee championship race drove his car into a brick wall to avoid running over a fallen driver, this day set a new world mile dirt-track record of 33.768 seconds in the time trials before the race.

In Watkins Glen, N.Y., on October 2, Frank T. Griswold, Jr., driving an Alfa Romeo car, won the first American Grand Prix, sponsored by the Sports Car Club of America. Ten thousand people watched the 52.8-mile race over a 6½-mile cross-country course. On the Langhorne Speedway on October 10 Neil Carter won the AAA national 100-mile midget car championship, with a time of 1:03:34.17.

The longest race of the year was the 6,000-mile Buenos Aires-Caracas Grand Prix, ending on November 8, in which Domingo Marimon of Argentina won the 100,000-peso (\$20,700) first prize, and which cost 7 lives. The most peculiar race of the year was the Pike's Peak (Colorado) climb, won on September 6 by Al Rogers, in the time of 15 minutes, 49.75 seconds.

AVIATION, Civil. Early in 1948, two high-level government reports regarding aviation policy were released, one by the President's Air Policy Commission, the other by the Congressional Air Policy Board. Although they differed slightly in detailed recommendations both reports recognized the urgent need for a national air policy to arrest the rapid deterioration of our air power which had set in immediately following the close of the war.

Members of the President's Air Policy Commission were Thomas K. Finletter, Chairman; George P. Baker, Vice Chairman; Palmer Hoyt, John A. McCone and Arthur D. Whiteside, Members. S. Paul Johnston, Director of the Institute of the Aeronautical Sciences, was Executive Director.

The Congressional Board consisted of Senator Owen Brewster, Chairman; Representative Carl Hinshaw, Vice Chairman; and Senators Albert W. Hawkes, Homer E. Capehart, Edwin C. Johnson and Ernest W. McFarland and Representatives Charles A. Wolverton, Karl Stefan, Alfred L. Bulwinkle, and Paul J. Kilday. Merrill C. Meigs, publishing executive in the Hearst Organization, was advisor.

The significance of air power was not fully understood until late in the war when its scope was first clearly defined by Eugene E. Wilson, then Vice Chairman of United Aircraft Corporation and President of the Aircraft Industries Association, in an important book *Air Power for Peace*. Here for the first time air power was recognized to represent far more than the combat air forces of a nation but a delicately balanced combination of air force, aviation manufacturing and commercial aviation. The latter includes not only civil air transport but fixed base and airport operation and personal flying.

In his book Mr. Wilson closed by advocating a reevaluation of our air power with the purpose of developing a national policy, but it was not until two years later that alarm in high places over the state of our aviation brought the first official action from Washington. The President's Air Policy Com-

mission was hastily recruited during the summer of 1947 and conducted hearings and visits to aviation centers during the fall. Its report was released on Jan. 13, 1948.

Meanwhile the Congressional Air Policy Board was organized and its hearings were conducted early in 1948. Its report was released on March 1. Most convincing was the broad area of agreement of the two reports developed by different approaches and techniques.

The recommendations of the President's Commission concerning civil aviation and related government organization are presented herewith in summarized form.

RECOMMENDATIONS ON CIVIL AVIATION

"The airlines are now passing through one of the most serious crises of their history. This situation is significant for two reasons. If not relieved, it will contribute to the deterioration of the airline service to the public. The second reason is that as a potential military auxiliary the airlines must be kept strong and healthy.

"Although some airline problems of 1947 may differ from those of the prewar period, the over-all situation is the same: The revenue from passengers and cargo, plus a revenue for the carriage of the mail roughly equal to the passenger rate, will not support the operations of many of the companies. If they are to continue in operation and start again up the ladder toward self-sufficiency, the Government will have to increase the mail rates.

"The carriage by air of all first-class mail which can be expedited thereby and the inauguration of a parcel post by air should be given serious consideration by Congress when the airlines achieve a satisfactory regulatory status.

"We have not gone into the technical aspects of safety because the President's Board of Inquiry on Air Safety has been extensively studying the problem. We recommend, however, that new types of transport planes be operated regularly on nonpassenger schedules for a specified mileage before passengers are carried. We believe also that CAB economic control over contract carriers would tend to increase safety.

"It is especially important to increase the regularity of service. Airlines will not have mass transportation until people are reasonably certain that they can depart and arrive on schedule. For safety and regularity a basic requirement is a nationwide system of air-traffic control, navigation, and landing aids. The Federal Government must accept the financial burden of providing these aids until those who use them are in a financial position to pay their fair share of the cost. Agreement must be reached as soon as possible by the interested private groups and responsible Government agencies on a common system of landing aids for immediate installation which will adequately serve both civilian and military needs. Government expenditure for electronic aids to air-traffic control, navigation, and landing will do more than anything else to advance the airlines toward self-sufficiency.

"We recommend that the Civil Aeronautics Board defer for a short time decisions in new route certification cases. This is not to be construed as a freezing of the present route pattern, which would certainly be undesirable. There is, however, a widespread confusion as to the principles which guide the CAB in route determinations. There is need for a comprehensive survey of the present situation. If the CAB does not develop a clear-cut plan for an over-all domestic transport pattern, the Congress should give serious thought to giving the

over-all planning function of route development to the Secretary of Civil Aviation recommended in section V (Government Organization).

"Whether more common carriers of property should be certificated is for the CAB to decide. We believe that in making its decision the Board should avoid impairing the soundness of the existing air transport system by spreading the present and potential traffic among too many separate carriers. If the Board finds that the public convenience and necessity does require some additional common carrier operators, we hope that it will give weight to the records built up by any of those contract operators that have proven their ability to operate economically and efficiently and now desire common carrier status.

"We recommend that the Civil Aeronautics Board prevent the control by surface carriers of the United States air transport system or any important segment thereof. We believe that individual progressive carriers, desirous of developing air transport as a part of a coordinated service, should not be automatically prevented from such action simply on the grounds that they are surface carriers. We recommend that the Congress enact legislation clarifying these two points.

"We recommend that the CAB be given economic control of all air carriers for hire.

"There is a real need for feeder airlines in those areas whose topographical features make surface connection between cities unsatisfactory. We recommend that the present experimental period for feeder airlines remain at 3 years. If it becomes evident that this period can be extended without burdensome cost in mail pay, we recommend extensions. We also recommend that new certificates, if any, be granted for 5 years.

"We agree with the present CAB policy which favors limited competition among American operators on international routes. We do not approve the chosen-instrument policy.

"We regret the failure of the International Civil Aviation Conference in Geneva to agree on a multilateral treaty covering rights and obligations in international air operation. We feel, however, that this agreement should not be sought at the cost of abandoning the so-called Bermuda-type agreements in regard to the right to carry passengers between any two foreign countries on a route—commonly known as the Fifth Freedom.

"The CAB should be given control over international rates.

"A State-local aviation panel advisory to the Air Coordinating Committee should be established in order to give official recognition to State and local aviation organizations at the Federal level.

"We recommend Congress appropriate each year the full amount of Federal funds permissible under the Federal Airport Act of 1946.

"Where a question arises as to whether airport facilities are constructed with the aid of Government funds or through the use of private capital, an investigation should be made by the CAB. If it is found that Government funds were used, steps should be taken to make these facilities available to all United States civil aircraft at reasonable

Aviation. The position of Administrator of Civil Aeronautics should be abolished and the functions, activities, and duties of the Civil Aeronautics Administration transferred to the newly formed department. We recommend that there be set up parallel to the Secretary of Civil Aviation a Secretary of Industry and Trade who would supervise a Department of Industry and Trade within the Department of Commerce. This would parallel within the Department of Commerce the pattern recently set up in the Military Establishment.

"There should be established an Aircraft Development Corporation authorized to pay all or part of the development cost of cargo or other nonmilitary planes, components, navigational aids, and safety appliances. The Corporation should also be authorized to make loans to manufacturers for development costs when it appears that such financing cannot be obtained from civilian sources.

"There should be established an Air Safety Board within the Department of Civil Aviation to consist of three members appointed by the President subject to confirmation by the Senate. The Air Safety Board would be responsible for the investigation and analysis of air accidents and submit reports to the Secretary of Civil Aviation to be made public by him.

"The promulgation of safety regulations should be transferred from the Civil Aeronautics Board to the Department of Civil Aviation, thereby combining in that Department the responsibility for the issuance and enforcement of safety regulations. This move would permit the Board to concentrate on its main function of economic regulation.

"The Civil Aeronautics Board should continue to be an independent agency, located within the Department of Civil Aviation for housekeeping purposes only. The membership of the Civil Aeronautics Board should be increased from five to seven in order that the practice of the Interstate Commerce Commission of operating by divisions may be adopted. The salary of Board members should be increased to \$15,000 a year. The staff of the Civil Aeronautics Board should be increased.

"Sometime within the future, all executive transportation functions of the Government should be centered in the Department of Commerce under a Secretary of Transportation, at which time the Secretary of Civil Aviation would be succeeded by a Secretary of Transportation. The independent semi-judicial bodies in the transportation field should however remain independent, and be brought into the Department of Transportation for administrative housekeeping purposes only.

"The Secretary of Commerce should be a member of the National Security Council.

"The Secretary of Civil Aviation should be chairman of the Air Coordinating Committee."

The minor differences in recommendation of the Presidential and Congressional reports were such matters as the number and salary of the members of the Civil Aeronautics Board and its relationship to the Department of Commerce. The Congressional Board advocated that the CAB continue to have five members, that their salaries should be increased to \$12,000 per annum, and that the CAB be freed of its administrative ties to the Department of Commerce.

Partly because of a Congressional calendar crowded by legislative projects resulting from a state of world unrest and partly because of the political problems of a pre-presidential election period, legislation implementing the air policy reports was slow in evolving during the 80th Congress. First attention was given to the urgently needed

RECOMMENDATIONS ON GOVERNMENT ORGANIZATION

"We recommend that the Government executive functions relating to civil aviation remain under the direction of the Secretary of Commerce who shall have immediately under him a secretary of Civil Aviation in charge of a Department of Civil

upbuilding of our air forces and related matters. Many of the recommendations relating to civil aviation must await action by the 81st Congress.

Amid the political uncertainties inevitable when presidential appointments are made in a pre-presidential election year and friction between the White House and Capitol Hill, the key vacancies in the Civil Aeronautics Administration and Civil Aeronautics Board were finally filled. The post of Civil Aeronautics Administrator, vacated by the resignation of Dr. Theodore Paul Wright, was conferred upon Delos W. Rentzel. The Chairmanship of the CAB, left open by the resignation of Dean James M. Landis, was filled by Joseph J. O'Connell, Jr.

Airline Traffic and Profits. In spite of vigorous efforts to curtail costs, the 16 domestic airlines showed a cumulative deficit of \$11,469,487 for the first eight months of 1948 as compared with \$13,838,976 for the same period of 1947. Traffic for the same periods was off more than 3 percent in 1948, the aggregate revenue passenger miles being 3,857,885,000 as compared with 3,986,014,000 for the first eight months of 1947.

Outstanding exception among the big four has been Eastern Air Lines which not only increased its traffic in revenue passenger miles from 579,210,000 to 675,228,000 for the periods under discussion but enhanced its already comfortable profit picture by an increase from \$2,858,681 for the first eight months of 1947 to \$3,491,256 for the same period of 1948. On September 1, five of the other domestic airlines were in the black: Chicago & Southern (\$414,853); Colonial (\$1,630); Delta (\$895,174); Continental (\$131,981) and Inland (\$57,362).

Heaviest loser was American which more than doubled its first eight-month deficit for 1947 during the same period of 1948. The latter figure was \$4,369,231, the former, \$2,186,865. Next in size of deficit for the first eight months of the year was Northwest (\$2,720,691); followed by United (\$2,602,824); TWA (approximately \$2,097,000); Western (\$1,037,076); National (\$1,388,732); Capital (\$989,330); Northeast (\$746,479); Braniff (\$495,330); and Mid-Continent (\$15,050).

Third quarter earnings, however, improved the picture slightly. In the case of American, for example, they reduced the year's deficit to \$3,998,593.

The airline fiscal situation resolved itself into a charge voiced by W. A. Patterson, President of United Air Lines, that CAB "is principally responsible for airline difficulties today." He advocated an investigation of the stewardship of CAB by outstanding transportation economists. In reply, Chairman O'Connell indicated that the carriers were not blameless for their predicament.

The financial condition of the U.S. overseas airlines became more encouraging during the summer. Northwest's Orient route showed a net operating profit of \$318,315 during the first half of 1948 and profits of \$140,758 in July and \$223,394 in August. United's route to Hawaii wiped out a first-half deficit of \$119,506 by profits of \$73,621 in July and \$92,630 in August. American Overseas Airlines lost \$795,596 during the first six months but made \$655,960 in July and \$628,358 in August. Pan American failed to profit sufficiently during the summer months to wipe out the first-half deficit. TWA's overseas divisions showed losses for both the first half and for July and August.

The domestic airlines have reduced fares through family plans, where wives and children of a paying passenger travel at half fare, as well as reductions for other traveling groups. A second-

class sky coach service has been established experimentally between New York and Chicago at a fare of \$29.60 which compares with \$27.30 for rail.

Air Parcel Post. Air parcel post made its debut in 1948, and, in September, first month of operation, it increased air mail volume 7 percent or approximately 516,500 lb. Post Office and Air transport representatives were somewhat disappointed by the initial showing but expressed hope that the ultimate objective of 50,000,000 lb. per month would eventually be reached. This figure represents 10 percent of the surface parcel post volume, which loses money for the Post Office Department. The air parcel post service is expected to reduce this surface volume.

Airline Equipment Pool. Promise of an airline equipment pool came with the announcement of the formation of the Convair Equipment Corp., a subsidiary of Consolidated Vultee Aircraft Corp. Partial purpose of the idea, created by financier Floyd B. Odum, is to recover losses to the manufacturing company on its Convair Liner which went into service on several of the airlines during the year.

The equipment corporation planned as a first step to purchase 100 Convair Liners from the manufacturing corporation and lease them to airlines with options to buy. Later the equipment corporation would buy planes from other manufacturers for lease to airlines, maintaining spare parts required and doing major overhauls on the planes. The corporation would also finance sales of new planes either through equipment trusts or by other means of financing.

National Case. An unprecedented move by CAB was an investigation to determine whether or not it was in the public interest for several airlines to acquire certain routes of strike-crippled National Airlines. Pilots on this line had been on strike since February 3, with no settlement in sight. The possibility of dismemberment of the line as a result of CAB action brought widespread discussion since it could establish a precedent for similar action with respect to other airlines having economic difficulties.

In its Caribbean area decision the CAB made it clear that it possessed legal power to withdraw previously granted operating authority.

Although National has been operating all of its routes with non-union pilots, traffic has fallen off seriously. During July and August the load factors for the system fell to 31.9 and 32.1 percent respectively as compared with 43.3 and 47.7 percent in the same months of 1947. Passengers carried dropped from 165,605 for the first half of 1947 to 66,556 for the first half of 1948.

Major airline crashes. As a result of the crash of a Northwest Airlines Martin 2-0-2 transport plane at Winona, Minn., August 29, the airline's fleet of 24 of these planes was grounded, seriously impairing the income of this carrier. The accident was later attributed to structural failure of the left wing. Modifications were made in the aircraft and by Fall the planes were being returned to service.

Earlier in the year United Air Lines lost a Douglas DC-6 in Pennsylvania due to the effects of fire extinguishing gases upon the pilots. Studies made of the effects of such gases upon human beings within pressurized structures made it possible to apply preventive measures against this unique type of accident.

Late in October a Lockheed L49 Constellation operated by KLM Royal Dutch Airlines crashed while landing by GCA (Ground Control Approach radar) at Prestwick, Scotland. Thirty-nine of the

of this type would have many fundamental advantages over those utilizing complex and expensive drive systems to transmit power from engine to rotor.

Compound engines. Two new compound engines were announced during 1948, the 28 cylinder Pratt & Whitney R-4360-VDT and the Wright Turbo Cyclone 18. These engines embody the addition of turbines to existing reciprocating engines in the higher output category. The advantages of the hybrid combinations are increases in power output of 20 percent or more and reduced fuel consumption.

In the R-4360-VDT, a single turbine is added with a variable-discharge nozzle at the turbo outlet. The basic reciprocating engine design is the R-4360 Wasp Major engine. The Turbo Cyclone 18 is a compound development of the R-3350. Three turbines are added and their output geared back to the crankshaft.

TC-190. During the Annual Convention of the Aviation Writers Association some of the details of the General Electric TC-190 (Air Force J-47A) were revealed by the Air Forces. In appearance the later model resembles the earlier TC-180 (J-35) which has been installed in several high-speed military planes. Frame size and weight of both engines are nearly the same but the Air Force states that the new engine develops 25 percent more power. It may therefore be assumed that the TC-190 would have a dry thrust of 5,000 lb. With afterburning it should be possible to obtain 6,000 lb. thrust or more.

Installed in the North American F-86A the TC-190 should furnish the thrust equivalent of 8,650 hp at the 650 mph top speed of this fighter.

Nene. Rigorous tests were conducted over a period of several months on the American version of the British Rolls-Royce Nene. As built by Pratt & Whitney under license the Nene is designated Pratt & Whitney J42-P-8. Under the thorough test program for this engine, its major components were tested individually in addition to the tests of completed units. Production facilities at the East Hartford plant have been modified to provide for the new turbojet and deliveries for installation in the Grumman Panther (XF9F-2) were scheduled for fall.

With water-alcohol injection the Rolls Royce Nene's take-off thrust is approximately 6,000 lb. Addition of afterburning to the Pratt & Whitney version is expected to increase this output to 6,500 lb. Installations in transport aircraft are under study.

British Engines. Further British progress in turbine engine development was made in the official approval by the Air Regulation Board of the de Havilland Ghost, a development of the wartime Goblin. The Ghost has been licensed for 3,600 lb. thrust but in its final version is expected to deliver 8,000 lb. It is the power plant selected for the new de Havilland Comet, 500 mph transatlantic transport airliner. Four Ghosts will power the Comet, which is scheduled to make its first flight from London to New York non-stop in 5½ hours, sometime in 1950.

The 1,200 hp Armstrong-Siddeley Mamba turbo-prop with its 10 stage axial flow compressor and two turbines also passed its type test early in 1948. It is soon to be installed in four aircraft, the twin-engined Avro Athena and Boulton Paul Balliol trainers and Miles Marathon II Transport and in the four-engined Armstrong-Whitworth Apollo transport.

Two other turboprops, the Bristol Theseus (2,-

400 hp) and Rolls-Royce Clyde (3,600 hp), were among those power plants which passed their tests.

The British program for installation and test of many different turbine power plants in various types of aircraft has made steady progress during 1948.

First Jet Transport. Scheduled for flight tests early in 1949 was the first aircraft designed from scratch as a jet-propelled transport. It is the Avro XC-102, designed and built by Avro Canada of Toronto in collaboration with engineers of Trans-Canada Airlines. Costs of this project are shared by the Canadian government and the manufacturer.

The XC-102 is a low-wing, all metal monoplane with pressurized cabin and tricycle landing gear. It is designed to accommodate 40 passengers and a crew of three and is expected to cruise at 430 mph at 35,000 ft. Gross weight is 52,500 lb.

Power plant consists of four Rolls-Royce Derwent II turbojets providing 14,000 lb. static thrust output. The engines are grouped in pairs on either wing panel.

—LASSIE E. NEVILLE

AVIATION, Military. The vote of confidence accorded the United States Air Force by the 80th U.S. Congress provided military aviation with an energetic boost at the start of 1948. The questionable peace existing during the year served only to augment the growing interest throughout the world in matters aeronautical. Decided improvements were evinced in many phases of aviation's development, but official opinion was unanimous in declaring that it would require several years and a great expenditure of energy to convert into a reality the futuristic visions pre-viewed or presaged during the war years. Discussions of jet propelled supersonic aircraft, guided missiles which attained astounding rates of speed, and the possibilities of atomic-powered planes and rockets gave evidence of intensive research programs. Scattered reports from foreign countries showed that, while many were hampered in the development of military aviation by pressing economic and political internal problems, several were able to equal the achievements announced by the United States.

United States. Progress in the United States was marked by continual competition among the three services, Army, Navy and Air Force, and among their supporters in the government. The Navy, reluctant to relinquish its proud position as the first line of defense, argued that the new Air Force had its place as a supporting arm but that it could never match the Navy with its carriers and carrier-based aircraft as the best offensive and defensive weapon of the United States. The Air Force, feeling its greatly increased importance as an independent unit, was pressing its demands for the 70-group Air Force which had been approved by the 80th Congress.

The Congressional Air Policy Board which officially expired on Mar. 1, 1948, presented its final report to Congress. This report condemned the Joint Chiefs of Staff for being unable to propose an over-all strategic plan for the defense of the United States. The rivalry between the USAF and the Navy was, moreover, held responsible for preventing the development of a basic program for the formation of a postwar air force.

This report also proposed, without specific approval, two 5-year programs for air power to be supported by the combined strength of the USAF and the Navy. The first of these was an offensive plan which would permit the United States "to mount promptly an effective, continuing and suc-

cessful air offensive against a major enemy." This plan would require a 70-group Air Force with 20,541 aircraft and a Navy with 14,500 aircraft. The defensive plan would provide a force of essentially the same strength as that required for the offensive plan with the exception of provisions for reserve aircraft. This defensive force would provide for sufficient strength to withstand a potentially crippling attack, form the groundwork for a strong defense, and furnish effective retaliation. Since the Federal budget would be increased to a total of over \$45,000 million annually by institution of the offensive plan and to over \$41,000 million for the defensive plan, it was evident that this country's economy would not be able to withstand such a burden and that something would have to be sacrificed.

The report of the Congressional Air Policy Board, along with the Finletter Report and the report of the Aircraft Industries Association (see *YEAR BOOK, Events of 1947*, p. 307-308), provided the Congressional supporters with strong ammunition in their bitter fight with the Administration to obtain sufficient funds for the support of a 70-group Air Force. The greatest opposition to these Air Force supporters came from President Truman, Secretary of State George C. Marshall, and Secretary of Defense James Forrestal. Secretary of State Marshall, an ex-infantry officer, said, in a statement before the Senate Armed Forces Committee, "I think however much any future war starts in the air, as in the past, it will end in the mud on the ground. I think one of the great difficulties in regard to air power and the American people's attitude toward life is that application of air power involves so much loss of life of non-military civilians and children as well as grown people." Secretary of Defense Forrestal opposed an increase from the existing 55 groups with the contention that a 70-group Air Force would necessitate a dollar-for-dollar expenditure for the Army and the Navy. In fact, Secretary Forrestal felt obliged to substantiate this point of view with a 10-page explanation contained in his report to Congress in the Spring of the year. President Truman expressed his opposition by pointedly avoiding any reference to air power in his special message to Congress in March and by repeatedly opposing additional appropriations for the maintenance of an augmented Air Force.

An admirable and practical demonstration of the value and necessity of military aviation was provided by the Air Force in its "Operation Vittles" which started on July 26, 1948, and which was carried on with the cooperation of the Navy and the RAF. This airlift of food and supplies was necessitated by Russia's land blockade of Berlin. In 5 months of operation, 409,256 tons of food, fuel, and other vital supplies had been delivered to Berlin by 50,898 flights, averaging 8 tons per trip. This provided an insight into the prospective problems which the United States might face in the event of another war; and the difficulties experienced, shortages of personnel and planes involved, and the inadequacy of maintenance facilities had a sobering effect on the thoughts of men responsible for our military future.

Prospects of increasing air power were not bright as the year 1948 drew to a close. With the election of a Democratic Congress in November to support a Democratic President it appeared likely that President Truman's policy of moderation in military expenditures would find greater support than it received from the 80th Congress. The fact that President Truman declared, in a speech on Dec. 27, 1948, that there were certain Russian leaders

"who are exceedingly anxious to have an understanding with us" and that peace could be achieved within the four years of his administration gave further evidence that the Air Force and Naval aviation would experience strong opposition to their attempts at expansion. Those Democrats who found courage to oppose the recommendations of the President while the Republicans were in the majority are expected to adhere more closely to party lines and uphold the Presidential proposals which are more in accord with the contention that the Army and Navy should share equally in military appropriations.

Budget and Appropriations. The recommendations of the various advisory boards on aviation brought about substantial increases in appropriations for the fiscal year 1949. Whereas the budget for the fiscal year 1948 provided a total of \$1,686 million for the combined Air Force and Navy Bureau of Aeronautics, Congress approved expenditures of \$3,200 million for the fiscal year 1949. The greatest increase was in the amount provided for the purchase of aircraft by the Air Force. This figure was raised from \$588 million for the purchase of 1,157 planes in the fiscal year 1948 to \$2,295 million for the purchase of 2,727 planes in 1949. Navy funds were also augmented by \$570 million, with an appropriation of \$333 million for 921 planes in 1948 being raised to \$903 million for the purchase of 1,535 planes in fiscal 1949. A total of \$75 million was added to the appropriations for research and development by both services, with the Air Force receiving \$149 million in the fiscal year 1949 and the Navy \$110 million. An item of \$1,178 million was also included for the support of the various services of the Navy and Air Force which perform the miscellaneous duties connected with aircraft production and use.

With the funds received for aircraft procurement, the Air Force planned to buy 1,575 jet fighters, 243 bombers and 909 miscellaneous types, including trainers, transport and cargo, photo-reconnaissance, rescue, and liaison planes. The Navy's plans included the purchase of 807 fighters, 80 helicopters, and 20 transports, with the remaining 628 to consist of experimental and miscellaneous types. The 1949 budget also provided \$517 million for the purchase of aircraft engines for both services. More than two-thirds of the planes to be bought out of fiscal year 1949 funds were to be jet-propelled. This, compared with the fact that approximately 55 percent of the Air Force procurement in the fiscal year 1948 was for jet-propelled aircraft and only five percent of Navy production was jet equipped, shows the definite trend away from standard reciprocating engines except for heavy bombers and transports.

Estimates for fiscal 1950 require a total procurement appropriation of approximately \$4,500 million, two-thirds of which would go to the Air Force. These figures are based upon the needs for implementation of the 70-group Air Force and the Navy's proposed 14,500-plane program. The so-called 70-group plan of the Air Force is, in actuality, a 131-group Air Force. This is due to the fact that the Air Reserve and the Air National Guard are integral parts of the air-power expansion program. The goal under this over-all plan is to have an Air Force with 70 groups and 6,689 planes, an Air Reserve with 34 groups and 2,360 planes, and the Air National Guard with 27 groups and 3,212 planes. A total of 8,100 planes would be required for a reserve force.

The Air Force, during 1948, was able to expand from the 55 groups existing on Jan. 1, 1948, to 66

groups on Jan. 1, 1949. This, however, was accomplished mainly by the use of World War II planes which had been in storage, leaving only about 2,000 planes of the required 8,100 in storage. The Navy requires an additional 3,500 planes to reach its proposed strength of 14,500 by July 1, 1949. Some of these will have to come from storage, with the remainder being new planes from production. Secretary of the Navy John L. Sullivan has estimated that an annual production rate of 3,300 planes will be required to maintain that level after it has been reached. This full complement of Naval aircraft will be sufficient to equip 24 carrier groups, one active and one reserve group for each of the 12 carriers in operation plus one reserve group on each coast. The fact that President Truman set a \$15,000 million ceiling on the 1950 defense budget makes it unlikely that either the Air Force or the Navy will be able to maintain its schedule of expansion. The funds necessary to carry out the program for expanded defense forces through the fiscal year 1950 at the levels authorized by Congress would require an additional \$1,000 million.

The National Advisory Committee for Aeronautics was allotted \$41 million for the continuation of its scientific research through the fiscal year 1949. This was an increase of almost \$17 million over its appropriation for the fiscal year 1948. The NACA operates three research laboratories; the Langley Memorial Aeronautical Laboratory at Langley Field, Virginia, the Ames Aeronautical Laboratory at Moffett Field in California, and a third located at the Cleveland Airport in Ohio. These laboratories conduct research in basic and high-speed aerodynamics and in flight propulsion.

Procurement and Production. Procurement for the fiscal year 1949 will be 4,262 military aircraft as compared with 2,078 for 1948. Air Force procurement was concentrated on fighter types, including the F-80, F-82, F-84 and F-86, with only one bomber, the B-50, being produced in quantity. The Navy also placed its procurement emphasis on fighter aircraft, mainly the F4U-5 Corsair, the F8F-1 Bearcat, the F9F-2 Panther, the AD-1 Skyraider and the AM-1 Mauler. Aircraft procurement for 1949 showed a definite trend toward jet propulsion. This was especially true of the fighter planes, the transports and heavy bombers retaining the conventional reciprocating engines.

Among current production aircraft for the Air Force were the North American F-82 with a top speed of over 475 m.p.h. and range of 2,500 miles, the Republic F-84B Thunderjet with a top speed of 590 m.p.h., service ceiling of 40,000 feet and range of 1,000 miles, the North American F-86A which has exceeded the speed of sound, and the F-93A, a modified F-86 using a turbojet engine rated at a 6,000-pound static thrust. Bomber production included the Convair B-36A and B-36B, the eight-jet B-49, the Boeing B-50 with a top speed rated at over 400 m.p.h., and the North American B-54A, a four-jet type. Prominent among troop and cargo carriers were the C-119A, an improved C-82 Packet designed to carry nine tons of cargo over a range of 2,000 miles, and the Douglas C-124A, a strategic transport, two and one-half times the size of a C-54, capable of carrying a 50,000-pound payload over a 2,400-mile range. Several miscellaneous types were also included in the procurement program, such as photo-reconnaissance, liaison, trainers, and helicopters.

Navy procurement also emphasized fighter aircraft with the Douglas F3D Skyknight, a twin-jet night fighter rated at over 500 m.p.h., the Grumman F9F-2 and F9F-3, the former using a Nene

power plant and the latter a J-33 engine, the North American FJ-1 with an axial-flow turbojet, and the McDonnell F11-1 Phantom and F2H-1 Banshee being the most prominent. Other important types with production contracts were the Martin PBM-5A Mariner, supposedly the world's largest amphibian patrol bomber, the P5V, giant turboprop-powered flying boat with both bomber and transport versions, and the Martin JRM-2 Mars, which is capable of carrying twice the payload of the original Mars. A contract was also let by the Navy to the Goodyear Aircraft Corporation for the design of the largest non-rigid, lighter-than-air craft ever planned. The new type "N" blimp was to be nearly twice the size of the Navy blimps used for anti-submarine patrol in World War II and would be capable of long-range patrol over open ocean areas.

Of major concern to aircraft manufacturers and to military aviation procurement was the "master plan" of the Western Union Military Committee, showing the size and organization of the future combined land, sea, and air forces which are the goal of that European alliance. It was felt that a front-line air force of 1,500 jet fighters with 3,000 in reserve and a fewer number of jet bombers would be the minimum air power necessary for protection against possible aggression. This plan was submitted to Washington and it is believed that a major proportion of the required aircraft would be procured in the United States.

Congress passed several acts during the year 1948 affecting the procurement of aircraft by the services. One of these was the Armed Services Procurement Act, which made the requirements for competitive-bid contracting less stringent and opened the way for negotiating aircraft contracts. New rules were also provided for the protection of manufacturers' investments by permitting the services to pay tooling costs for a contract as soon as approval is given for the machinery required. In return for this concession the services required stricter cost accounting, more careful scrutiny of costs by inspectors, periodic price negotiation and elimination of all charges not specifically involved in the production of military equipment. An amendment to the 1948 Supplemental National Defense Act passed by Congress on May 21, 1948, provided for the renegotiation of all aircraft procurement contracts made under the 1949 fiscal program. This power of renegotiation was delegated to two 5-man boards, one for the Navy and one for the Air Force. Any contract or subcontract for more than \$1,000 became subject to renegotiation if the contracting firm had a gross business of over \$100,000 under such contracts.

Research and Development. The year 1948 saw admirable progress in practically all fields of aviation development. Not only did the Navy and the Air Force produce radically-designed fighters and bombers of astounding speed capabilities, but in guided missiles, pilotless aircraft, very high-powered conventional and jet engines, and in the innumerable contributing sciences they made great strides forward. Statements by several high United States officials gave the impression that the United States was on the threshold of a "Buck Rogers" civilization.

Toward the close of the year, Lieut. Gen. George E. Stratemeyer stated that "human flight at 1,000 miles per hour is no longer a hangar day-dream"; and Secretary of Defense James Forrestal, in his first annual report since assuming direction of the National Military Establishment, announced the existence of an "earth satellite program." However,

there was little evidence of these fantastic projects in ordinary life. The only public display of aviation's great advancement was the sight of an occasional plane which seemed to be flying faster than did the older models. How close the military experts had come to those dreams which they had intimated could only be conjectured on the part of the layman.

The Navy, having experienced considerable success in the launching and landing of jet-propelled aircraft on carriers, devoted more of its energies and finances to their development in 1948 than in 1947. Several new aircraft were evidence of the progress in this direction. Among these were the North American XFJ-1 and Grumman XF10F, both jet fighters, the XF7U-1 "flying wing" fighter, and the XAJ-1 search plane for anti-submarine work. The Chance Vought swept-wing XF7U-1 was a tailless jet fighter designed for shipboard operation and rated at well over 600 m.p.h. The "flying wing" characteristics gave it certain advantages over conventional types of aircraft, particularly in the high speed range. The XF7U-1 power plant consists of two J-34 turbojet engines and, for combat performance, high bursts of speed are obtainable through the use of after-burners which are able to produce large increases in thrust for short periods.

The North American XAJ-1 is powered by two Wasp Major reciprocating engines located under the wings, with one GE-Allison turbojet engine in the tail of the fuselage. The plane will use its conventional engines for normal operation while the pilot will be able to "cut in" the jet for added speed under combat or emergency conditions. The XAJ-1 will be able to carry a heavier bomb load and will be considerably faster than the present carrier types. The Douglas D-558-1 Skyrocket which set a world speed record of 650.7 m.p.h., has been clocked in test flights at 702 m.p.h. at sea level. With a temperature of 90 degrees this would be the equivalent of a Mach rating of 0.896. The Douglas D-558-2 Skyrocket, which is still undergoing tests, was designed for a Mach rating of 2.5. The Lockheed XP8V-1, designed for use aboard the new 65,000-ton carrier, is powered by both turbojet and conventional propeller power. This aircraft is also equipped with advanced electronic equipment for use in anti-submarine warfare. The Navy also carried on research for the development of a supersonic target plane with which they could train gunners for defense against supersonic aircraft.

The Air Force completed much research and development of high-speed fighters and long-range bombers during 1948. The XF-87, XF-88, XF-89, XF-90, and XF-92 were all developed as high subsonic or supersonic fighters. The XF-87, a four-jet night fighter, was tested at over 600 m.p.h. The XF-88, a swept-wing penetration fighter, is powered by two J-34 jet engines and is said to be capable of speeds over 720 m.p.h. The XF-89 is a twin-jet all-weather fighter with straight wings and powered by two J-35 engines. The XF-90 is also a straight-wing all-weather fighter. The XF-92 is under development and is being designed as a supersonic fighter.

The XB-47 and XB-48 were among the latest bombers to be developed. Both are six-jet aircraft, and the XB-47, which has dived at 720 m.p.h. and approached level flight of 650 m.p.h., has also surpassed the F-80 fighter in some of its tests. It was reported that the Air Force was in the process of developing a new four-turboprop bomber which would be heavier and have a longer range than

the XB-47, although no information had been published at the close of the year.

The Air Force was also continuing its line of research planes which had started in 1947 with the X-1, the first plane admitted to have exceeded the speed of sound in level flight. The X-2, second of this series, was supposed to have a rocket engine for power and, unlike its predecessor, swept wings. The X-3 research plane was designed for a supersonic speed of Mach 3.0 and altitudes from 200,000 to 300,000 feet. The latest of this line, the X-4, was designed primarily for the study of flying-wing characteristics at high subsonic speeds.

In the development of trainers the Air Force outdid itself. The TF-80-C, which was designed for training jet pilots, gave better performance than did the original F-80.

One offshoot of the development of supersonic fighters was research to produce strong plastic materials to be used in wing structure for the purpose of containing radar and communications equipment, since it is not feasible to use antennas at supersonic speeds. Another achievement was the development of a honeycombed metal sandwich material for the construction of wings to eliminate internal structures and allow more space for fuel storage.

Both the Navy and the Air Force showed increased interest in helicopter research and development. The Navy went so far as to discard its observation and scouting plane program in favor of the helicopter. Most notable of the Navy's new helicopters was the XHJS-1, designed for utility, rescue, and observation work aboard aircraft carriers, battleships, and cruisers. Normally it carries a crew of three and has a top speed of 110 m.p.h. The Air Force had several types which were being considered for future production. Prominent among these were the XH-10, XH-15, XH-16, and XH-17. The Bell XH-15, a two-place liaison helicopter, was the smallest of the four, the others having been considered for their load-carrying capabilities. The XH-10 was designed to carry 12 passengers and was powered by two engines. The Piasecki XH-16 was approximately the size of a C-54 cargo plane. The Kellett-GE XH-17 was a radically designed, jet-propelled "flying crane" helicopter, capable of carrying a load of 24,700 pounds a distance of 65 miles. In order to overcome the handicap of short range possessed by the helicopter, experiments were conducted to study the practicability of towing them to the scene of action.

Rockets and guided missiles also found their place in the research and development programs of both services. The Navy's Aerobee research rocket, which reached a speed of 3,000 m.p.h. and an altitude of 78 miles in its first firing at White Sands Proving Grounds, New Mexico, was equipped with a sequence camera and used to photograph a 1,400-mile area of the United States. The scientific purpose of this project was threefold: to obtain meteorological information; to obtain missile orientation required for the interpretation of cosmic ray data; and to investigate the use of rockets in aerial photographic reconnaissance.

The longest sustained flights ever made by pilotless aircraft powered by ramjet engines were accomplished by almost wingless missiles tested by the Navy at Point Mugu, Cal. These missiles, PTV-N-2a (Propulsion Test Vehicle), made several sustained controlled flights of more than 10 minutes. They were piloted by remote control and tracked by radar. Free-flight information was obtained by launching from a mother airplane, and flight information was telemetered back to a ground

receiving station by an electronic "brain." This missile, designated the Gorgon IV, was powered by an engine which had been designed purposely to fly at subsonic velocities.

The first Navy ship to be equipped specifically for the primary function of firing large rockets, the USS *Norton Sound*, had her initial voyage as a seagoing platform for upper atmosphere research through rocket-firing experiments far out at sea. This floating laboratory was also intended for use by the Army and Air Force. The Air Force announced a radically new rocket engine using a secret oxygen-based fuel. Experiments were made with this engine mounted in a "WAC Sergeant" test rocket. Another Air Force rocket, the REX (Rocket, Escape, Experimental), was designed to go beyond the gravitational pull of the earth and was probably part of the research involved in the satellite program mentioned by Forrestal. It had a five-step construction, each step consisting of a rocket motor which drops from the rocket when its fuel is exhausted. When one rocket engine drops off the next starts to run and increments the speed already attained. By the time the fifth step is reached it is believed that the desired escape velocity will have been reached. The Air Force and the Navy combined their efforts in the development of a jet target missile, the XQ-2, which was half the size of a normal fighter plane with a top speed of approximately 600 m.p.h.

In their quest for greater speed and greater load-carrying capabilities, both the Air Force and the Navy spent large amounts of their appropriations on the development of new and improved engine types for use in aircraft. An extensive program was undertaken for the development of turboprop engines. It was felt that these engines were ideal for medium speed, long-range aircraft, and provided high power with low installation weight. An improved version of the R-4360 Wasp Major was the R-4360-VDT (Variable Discharge Turbine) which provided a 3,200-pound thrust. The R-2180 Twin Wasp was a new development in piston engines and was designed for installation in a modified C-54. This 14-cylinder engine was capable of providing 1,800 horsepower with water injection. The Navy announced the Turbo-Cyclone 18 engine, a conventional reciprocating type with an added compounding system. When installed in Navy aircraft it is expected to increase substantially the power and speed, as well as the range, of these planes.

Another development which was expected to increase the speed of aircraft already in production was the Navy's after-burner. This after-burner is an auxiliary jet unit which steps up the power of a jet turbine engine for short periods. Fuel is injected into the gas flows of the turbojet engine tail pipe and burned in the excess oxygen at extremely high temperatures. The added heat energy thus created provides the extra thrust which increases proportionately with the speed of the aircraft and is currently limited only by available materials. For use at supersonic speeds it was felt that the ramjet engine offered the greatest possibilities since it provides increasing power with increasing speed. The greatest power potentialities of any type of engine were possessed by the Northrop Turbodyne II. This turboprop engine, capable of producing 10,000 horsepower, could not be installed in any existing airframe because of the excessive power generated.

Activities in supersonic research involved much more than a study of aircraft configurations and engine design. Aeronautical engineers were enter-

ing upon a field for which there was little or no basic knowledge. Many strange facts exist beyond the borders of sonic speed. One of the minor problems, showing the wide range of activities entered into, was the testing of the adhesive qualities of paint at high speeds. To determine this the Navy utilized an "ultra-centrifuge" which spins a small steel ball at a speed of approximately 1,800 miles per hour. A dot of paint is placed on the steel ball and speed is increased until the centrifugal force is great enough to cause the paint to fly off. The speed of the ball and the weight of the paint, along with its area, are used to compute the adhesive qualities of the paint. The problem of paint for high-speed aircraft is very important in research at supersonic speeds. When spread over an entire airplane, paint adds considerable weight, so its thickness has to be limited to about 0.001 of an inch. At high speeds this thin coating tends to come off, causing a dangerous disruption of the airflow. One major problem encountered in supersonic flight is the dissipation of the excessive heat generated by air friction. This involved research on the development of various cooling methods to avoid the use of such materials as titanium and cobalt which are strategically critical and in danger of severe curtailment.

Much discussion was caused in the early part of 1948 by the fact that the X-1, which had exceeded the speed of sound, was a straight wing aircraft, while most of the research had, up to that time, been concentrated on the development of swept-wing types for supersonic speeds. Tests conducted at the Ames Memorial Laboratory of the National Advisory Committee for Aeronautics revealed that, while swept-wing versions were most practical in the transonic range from Mach 0.8 to Mach 1.8, the straight wing was best for ultrasonic speeds.

Several supersonic wind tunnels were either put into operation or were being built during 1948. The NACA Langley Memorial Laboratory had a supersonic tunnel which was capable of attaining a speed of Mach 2.2 under continuous operating conditions and reputed to be the fastest in operation. The largest of these wind tunnels was located at the NACA Ames Laboratory. This tunnel was capable of speeds up to Mach 1.6. Another at the same location, which was not yet in operation, was larger and would attain speeds up to Mach 2. A wind tunnel captured at Kochel, Bavaria, and operated by the Naval Ordnance Laboratory at White Oak, Maryland, was said to have reached speeds of Mach 5.8 in tests. This tunnel had been used by German scientists in their preliminary research on the V-2 rockets.

Operations. With the advent of the new year 1948, the Air Force was still in the infancy of its independence. It soon became evident, however, that this was not an independence to be retained without a struggle. The claim that the Air Force had become our first line of defense was not accepted unanimously by all government officials. Advocates of powerful sea and land forces were quick to come to the defense of the Army and the Navy in the battle for appropriations. Although in theory the 80th Congress had given the Air Force its approval by supporting the 70-group program, in reality it was a weak endorsement since there was included no authorization for the funds necessary to maintain such a force. Secretary of Defense Forrestal further handicapped the attainment of the 70-group goal by the Air Force with his announcement of a program of "balanced" expenditures, with equal amounts being spent for all three services. Satisfying all three services under this

program would necessitate appropriation of such excessive amounts of money that it would soon bankrupt the country.

The supporters of the Navy, while they were willing to agree that air power was a necessity, felt that it should supplement, rather than replace, the existing facilities on land and sea. Moreover, with the Navy's newly developed strategy of using submarines as refueling bases for its flying boats, they felt that the Navy was in a much better position to carry out long-range missions than was the Air Force with its land-based aircraft. Throughout the year, Secretary of the Navy John L. Sullivan waged a vigorous fight for new aircraft carriers and increased Naval air power. It was only natural, in the face of all this discussion of air power, that adherents of the Army should come to the fore with the affirmation that manpower would be the deciding factor in any war which might be waged. It was their contention that numerical superiority of troops was the basic factor in deterring other countries from an attack upon our shores.

This competition between the services made it clear that the 81st Congress, when it convened in January of 1949, would be faced with the problem of determining the best course to follow, the one which would afford the United States the greatest amount of protection in an emergency, and concentrating their efforts on an attempt to achieve that goal. Secretary of Defense Forrestal, in his first annual report on the National Military Establishment made on Dec. 29, 1948, expressed the following sentiment on unification: "True unification of the armed might of the United States cannot spring from legislation alone. The spark generated by the unification act must be fanned into flame by the thoughts and actions of generals and admirals, ensigns and lieutenants, soldiers and airmen and civilians. We must all learn that we are working together for a common cause—the security of the country—and that the good of all transcends that of the few."

In January, 1948, the Air Force had a total strength of 55 groups with 22,800 planes, more than half of which were in storage, and the Navy had 14 carrier groups with approximately 10,000 planes in service. By the end of 1948 the Air Force had increased its over-all strength to 66 groups, while the Navy felt confident of achieving its 14,500-plane goal by July 1, 1949. These facts gave evidence of the increasing interest which was displayed in military aviation during 1948 and showed a healthy improvement in the defensive power of the United States. However, indications were that neither service would attain its full growth, including reserve strength, within the next 5 years unless an emergency bordering on a virtual state of war should arise, calling for all-out effort in behalf of the country's defense. Faced by the more intensely personal problems of housing and rising prices, the Congress will not be likely to increase military expenditures by too great a margin in 1949.

Better than all speeches in favor of air power was the achievement of the Berlin airlift mentioned above. The sustained supply of the essentials of life to the people of Berlin despite all obstacles of weather and politics gave proof of the efficacy and importance of air power under present-day conditions. It must be noted that the Navy, too, is to be credited with much praise for the splendid work which it accomplished in supplying the tremendous amounts of fuel required for the successful completion of those many missions.

Another step in the direction of unification was the consolidation of the Air Transport Command

of the Air Force with the Naval Air Transport Service. This group, designated as the Military Air Transport Service, was established on Mar. 1, 1948, and began its operations on June 1. Administration of MATS came under the Air Force and Maj. Gen. Laurence S. Kuter was appointed to direct its activities. MATS was charged with the responsibility for operating all scheduled air transport service for the Air Force, Army, and Navy as well as for other government agencies, for providing weather information, communications, and air-sea rescue and for maintaining all primary facilities required in furnishing these services. Administratively, MATS was appointed to act as liaison with all civil transport facilities to prepare for their utilization in time of war.

In the early part of 1948 the Munitions Board established a committee on aircraft and appointed Rear Adm. A. M. Pride, Chief of the Navy Bureau of Aeronautics, as chairman. Admiral Pride, along with several USAF representatives, was to coordinate and standardize the services and equipment of the Air Force and the Navy, insofar as practicable. Besides an attempt at coordinating the material aspects of the services, a method was proposed for eliminating or reducing the wide divergences of opinion existing between the services. Maj. Gen. Wilton Persons of the Army was appointed to fill a position as mediator in the National Military Establishment. It was felt that relationships between the services would be improved if all problems which arose were routed through such a mediator for compromise before they reached Congress and became matters of public discussion.

The only major change in personnel within the Air Force was the appointment of Gen. Hoyt S. Vandenberg to succeed Gen. Carl Spaatz as Chief of Staff, effective July 1, 1948. On that same date the Air Defense Command reduced the number of its Air Forces from six to four. The 11th Air Force was consolidated with the 1st and the 2nd was absorbed by the 10th. As a result of this retrenchment for economy's sake, the spheres of defense were rearranged as follows: the northeast coast was placed under the 1st Air Force, the southeast, south and southwest under the 14th, the middle states under the 10th and the Pacific coast under the 4th. The Air Proving Ground was also consolidated with the Air Materiel Command during early 1948 as a part of this over-all economy move.

Type designations of aircraft were changed by the Air Force. A comparison of the new and old systems is as follows: fighter changed from "P" to "F," reconnaissance from "F" to "R," trainers from "AT," "BT" or "PT" to "T," research from "XS" to "X," amphibian from "OA" to "A," helicopter from "R" to "H" and search and rescue planes which had no designation were assigned the letter "S." Description of all other types remained the same.

The Air Navigation Development Board (ANDB) was established for the purpose of coordinating the military and civil all-weather airways and giving the final recommendations for all types of equipment to be used. The all-weather program was divided into two distinct phases. The first of these was an interim program aimed at the utilization of equipment already available or likely to become available in the immediate future. Completion of this program was expected within the following 6 years and would require expenditures of approximately \$5,700,000 for research and development and \$369,500,000 for production.

Foreign Developments. Due to the ever-present threat of war in an unsettled world, no country published detailed accounts of its activities in the field of military aviation. Most information had to be gathered from scattered sources, pieced together and conclusions drawn from the material obtained. Great Britain appears to have attained approximately the same developmental status as exists in the United States. Russia shows evidence of having planes which rival the performance of those in America, and the possibility exists that her research has surpassed that of the Western powers. However, aviation authorities believe that Russia does not yet have the facilities for producing jet-powered aircraft in the same quantity or of the same quality as those being manufactured in the United States.

Great Britain. Despite the fact that Britain has shown a great deal of progress in the development of jet engines and aircraft, her actual strength, insofar as military aircraft are concerned, is at a dangerously low ebb. Vampires, Meteors, Fireflies and Seafires are the only jet planes which would be available in sufficient numbers to form a fighting force for emergency use. The British have not yet recovered from the effects of World War II. Production, retooling, and manpower shortages are the chief problems which they face and to which they must devote the major part of their energies. The budget of £140 million for the fiscal year 1946-47 was sharply reduced in 1947-48. A total of approximately £60 million was allotted for the year ending March 31, 1948, to be used for the purchase of aircraft engines and spares. Most of the money appropriated for military aviation is being used in research and development, according to statements made by the Minister of Defense and Sir Henry Tizard, Chairman of the Defense Research Policy Committee.

Britain is counting on at least 5 years of peace, during which time new and improved aircraft can be developed and readied for production with the least amount of effort and money, and the country's major attention devoted to domestic problems. After this period, if an emergency should arise, the British feel that sufficient preparations will have been made to permit the rapid quantity production of modern aircraft, comparable to those in use by any prospective enemy. Of those planes which are in production, many are being sold to various countries in Western Europe and in the British Empire.

The greatest activity in Britain was found in the development and manufacture of jet fighters. Among the latest types are the Saro SR/45 and SRA.1 flying boats (the latter being powered by a turbojet engine and having a rated speed of over 500 m.p.h.), the Supermarine Attacker, the Hawker N.7/46 Navy fighter and its RAF counterpart P.1040 (both powered by the Rolls-Royce Nene turbojet engine and having a speed rating estimated at over 650 m.p.h.), the E.38/46, a new swept-wing version of the N.7/46 and reported to have a top speed of over 600 m.p.h., the deHavilland Sea Hornet XXI, an all-weather fighter with a special nose structure to accommodate radar search equipment, and, finally, the DH-108 Swallow, powered by a modified Goblin turbojet engine and reported to have exceeded the speed of sound in a dive at a Mach number of 1.0. Gloster was designing a swept-wing replacement for its twin-jet Meteor which is, at present, one of the mainstays of the RAF.

Although no new bombers were introduced, it was believed that the British are developing two

new types, one an eight jet flying wing and the other a four-jet, swept wing tailless bomber. The trainers in use had already been introduced in 1947, with the fastest being the Gloster Meteor VII which has a top speed of 585 m.p.h. Among the latest engines to be developed were the Napier Naiad, the Bristol Proteus, the Bristol Proteus, and the high-rated Armstrong Siddeley Python which produces 3,670 horsepower. Rolls-Royce introduced a new axial-flow turbojet engine with a record 7,500-pound static thrust.

U.S.S.R. No details concerning Russian air power were available, other than those which that government chose to supply. Scanty as those reports were, however, certain conclusions may be drawn. Secretary of the Air Force Symington made note of a report that Russian aircraft production was approximately 12 times that of the United States. This report, if true, would mean that Russia is capable of putting into the air a formidable fighting weapon. While a great deal of Russia's output appears to be almost direct copy of certain American plane types, it is evident that a great deal of original research is under way. The Russians gained much knowledge and saved years of research by the capture of Nazi laboratories and by the assistance of German scientists.

The Russians have three jet fighters and two bombers which have been observed in flight. The fighters are the 600 m.p.h. "Mig" (powered by a single turbojet engine), a swept wing, supersonic version of the German DFS 346, and the "Yak," which is believed to have a Rolls-Royce Nene engine and a speed of between 630 and 660 m.p.h. It is reported that these fighters are already in service with several tactical fighting units. The two bombers are jet-powered, one being a twin-jet type and the other having four jet engines. Consensus of estimates places the Russian front line aircraft strength at approximately 15,000 planes.

Russia is also active in guided missile research, as evidenced by reports from Scandinavia of objects passing over those countries at supersonic speeds. One report has it that the Russians have solved the problem of causing their missiles to follow the curvature of the earth rather than following a straight course and attaining great heights with limited range. This was one of the major difficulties experienced by the Germans in their research on the V-2 rockets.

France. Unable to carry on normal development and production during the war, France has not yet established an air force of any magnitude. It is reported that the French Air Force has approximately 3,500 front-line planes, practically all of which are war-time British and American models. Research and development of jet models are only in their preliminary stages. The few jet powered aircraft which are now in use were bought from the United States or Britain. Proposed plans for production which will carry through 1951 call for a total of 1,457 military aircraft to include the following types: the SE-2400, SO-6020, and SO-8000 jet fighters; the SO-4000 or NC-270, medium jet bombers; the NC-211, N-2500 or BR-890, and BR-761 freight carriers; the MO-315 overseas liaison; the SO-30R and N-30 transports; the N-1400 exploration hydroplane; and the SO-6000 jet trainer.

In 1947 the French produced a total of 1,445 planes, which included both civilian and military types. Among the latest planes developed and produced in France were the Dassault 450, a combat fighter powered by a Rolls-Royce Nene engine and rated at a top speed of 578 m.p.h., which rescom-



PRIZE MONEY of \$41,500 made the Pepsi-Cola competition the nation's richest until it was abruptly closed after the exhibition in 1948, a year which also saw repeal of the excess-profits tax. Mitchell Jamieson's painting *Landscape* (below) won first prize (\$2,500). The artist conceived his picture "as a statement in mood . . . The intent was to retain realism of atmosphere . . . while using somewhat abstract, space-filling forms." The picture was selected as the November subject for the company's 1949 calendar. *The Assemblage* (left), by Margaret Tomkins, won third prize, and a \$1,500 award. The artist here was concerned with "the static moment of being in the life cycle—a phenomenon of man and nature assembled as one."

Acme Photos



BLUE TABLE STILL LIFE is the title of the Pepsi-Cola contest's second prize winner, painted by Nan Lurie of Greenwich Village in New York City. The prize Miss Lurie received amounted to \$2,000. ▼





PERILOUS NIGHT, painted by John Heliker, is shown at the left. It was awarded the O'brig Prize by the National Academy in its 122nd annual exhibition, held in New York City. The National Academy's competition, in which the first prize went to a safely academic work and other prizes to works of the nature of Mr. Heliker's, was characteristic of most public competitions during the year, in that it assayed to present, bravely, all sides of the modern-art controversy, recurrent in 1948 with no less vigor than in previous years.

MEDIEVAL SHADOWS, is the title of this painting (below) by Raphael Gleitsmann, winner of the \$1,500 first prize in the Carnegie Institute exhibition, "Painting in the United States, 1948." The annual awards, formerly international, were given this year to a selection of 300 artists on a 100% American basis. The paintings ranged from abstraction to illustration. ▼

Photos courtesy Kraushaar Galleries, Carnegie Institute





Courtesy The Downtown Gallery

APTEKA. A street scene painted by Jack Levine—this picture won a medal in the Pennsylvania Academy's competition. Earlier in the year *Look* magazine published a list of the ten foremost living American artists: Mr. Levine was the only one of these to win an Academy medal. He came in tenth on *Look's* list, however.



Courtesy Frank Rehn Gallery

CLAIRE LUCE AS CAMILLE, characteristically wistful, was painted by John Carroll. The picture won first prize of \$1,200 in the National Academy's annual exhibition, in which prizes went also to Raphael Soyer for *Seamstress*, Zsissly for *Yakuima Boy*, Martin Johnson for his metropolitan scene *Tintype*, Jacob Arkush for a solidly executed figure study called *Leona*, and Ruth Ray for *Navajo Land*, a western still life in the manner of Georgia O'Keeffe.

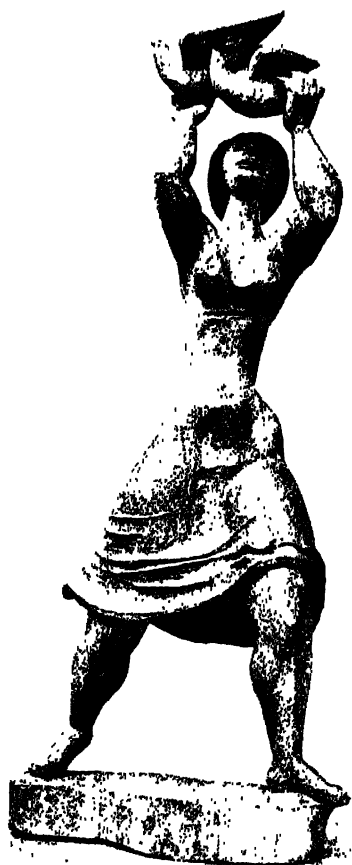


REST ON THE FLIGHT INTO EGYPT (left), carved directly in black diorite by the American Donald Hord. Completed in 1941, this work was delivered to the San Diego Fine Arts Gallery on Pearl Harbor day, and immediately returned to the sculptor for the duration, the gallery being converted to a naval hospital. The piece was brought back in the year 1948 for the gallery's reopening.

Courtesy Homer Dana

TEAKWOOD SCULPTURE entitled *Woman with Birds*, carved by Milton Hebard and now in the collection of the Whitney Museum of American Art, in New York City, is shown at the lower left. In 1948, plans for the fusion of the Whitney and Metropolitan museums were abandoned, the Whitney Museum fearing for the safety of its liberal tradition.

THORN-BLOSSOM (below), done in steel and brazed nickel by the Sculptor Theodore J. Roszak, was exhibited in the collection of the Whitney Museum. It is one example of the emancipated attitude of that museum on the matter of contemporary art trends, an attitude which contrasted incompatibly with that of the Metropolitan, and occasioned the formal split in October 1948.



bles the Douglas D-558 in appearance, and the Arsenal VG-70-01, a jet research plane which is powered by a German Junkers Jumo 004B-2 turbo-jet engine and has a top speed of 550 m.p.h. Orders have been placed with Britain for the delivery of a number of deHavilland Vampires and Vickers-Armstrong Attackers. The United States approved the sale of 15 P-51 Mustangs to France for a total of \$157,467.

Norway and Sweden. Concentration on the development of jet-propelled fighters marked the character of military aviation in Scandinavia. With the realization that they are in a difficult position to wage an offensive war, these countries are devoting their energies to building up a fast, hard-hitting force of fighters with which they could ward off a powerful attacker. Their hope is that they will be able to carry on a delaying action long enough to permit a more powerful ally to arrive with reinforcements. Both Norway and Sweden are placing orders with Britain for delivery of deHavilland Vampires, especially the Mark III version which has a greater fuel capacity and wing rocket launchers. Sweden is producing its own jet fighter, the J.29, reportedly capable of sonic speeds.

Canada. The Canadian government was scheduled to spend \$6 million for jet engine research and experimental construction and \$3 million for the purchase of military aircraft from the United States and Great Britain. Vampires which were purchased from Britain were delivered unassembled for construction in Canada. Canada itself was producing the XC-100, an all-weather fighter powered by two Rolls-Royce Avon engines and capable of attaining speeds over 675 m.p.h.

—MATTHIAS HOLLANDER

AZORES. A Portuguese archipelago in the Atlantic Ocean about 800 miles west of Portugal and 2,100 miles east of New York. Area: 889 square miles; population (1940 census), 286,885. The eastern group comprises Santa Maria and São Miguel (297 sq. mi.) islands; the central group the islands of Terceira, Graciosa, São Jorge, Pico, and Fayal; and the western group the islands of Flores and Corvo. Capitals of the three districts, each of which sends representatives to the Chamber in Lisbon, are: Ponta Delgada on São Miguel (pop. 21,048); Horta on Fayal (pop. 8,407); and Angra do Heroísmo on Terceira (pop. 11,706).

Production, etc. Agriculture, dairying, fishing, and needlework are the chief occupations. The principal crops are corn, hothouse pineapples, fruits, sugar beets, wheat, and tobacco. Imports come mainly from Portugal. The Azores is an important center of world communication and has 15 Atlantic cables. Air bases in the islands are strategically important to transatlantic aviation. An inter-island air service was opened in June 1947.

BADMINTON. Dr. David Freeman of Pasadena, Calif., won the American Badminton Association championship for the sixth time by defeating Martin Mendez of Pasadena in the final of the national tournament at Waco, Tex., in April. Freeman also retained a share in the doubles title when he teamed with Wynn Rogers of Arcadia, Calif., to triumph.

Ethel Marshall, defending champion from Buffalo, N.Y., repeated in the women's singles by conquering Mrs. Thelma Scovil of Pasadena. Mrs. Scovil later paired with Janet Wright to capture the doubles laurels, while Mr. and Mrs. Clinton Stephens of Baltimore, Md., took the mixed doubles trophy.

—THOMAS V. HANEY

BAHA'I FAITH. Religion founded by Baha'u'llah (1817-1892), now spread to 91 countries of the East and West. It teaches that divine revelation is progressive and that each revealed Faith is one stage in the evolution of one universal religion. It stresses also the principle of the oneness of mankind as the basis for a new world order. In the United States there are 179 organized local communities, four summer schools, a House of Worship (Wilmette, Ill.) and an extensive publications activity. Nine National Assemblies exist, in the United States, Canada, Great Britain, Germany, Egypt, Iran, Iraq, India (with Burma and Pakistan), and Australia (with New Zealand). World headquarters: Haifa, Israel; American headquarters: Wilmette, Ill.

BAHAMAS. A British West Indian colony comprising 20 inhabited and many uninhabited islands and rocks. The chief islands are New Providence, Abaco, Harbour, Grand Bahama, Cat, Long, Mayaguana, Eleuthera, Exuma, San Salvador (or Watling's Island), Acklin's, Crooked, Great Inagua, Andros. Total land area: 4,404 square miles. Population (1944 est.): 69,991 (85 percent colored). Capital: Nassau (on New Providence). Finance (1948 est.): revenue £967,170; expenditure £1,270,870; public debt (Dec. 31, 1945) £245,000. Foreign trade (1946): imports £2,840,576; exports £399,819. Sisal, sponges, fruits, and tomatoes are the chief products. A site for a naval base on the island of Mayaguana was leased to the United States in 1940. See *BRITISH WEST INDIES*.

The Governor (Sir William L. Murphy, Apr. 30, 1945) is assisted by an executive council. A legislature consisting of a legislative council and a representative assembly is elected by voters, who must meet a small property qualification.

BAHREIN (Bahrain). The important islands of this Arab state in the Persian Gulf are Bahrain, Muharraq, Nabi Saleh, and Sitra. Total area: 213 square miles. Population: 100,000, of whom about one half belong to the Shia sect and one half to the Sunnis. Capital: Manama (30,000 inhabitants) on the island of Bahrain; Muharraq is the other important town.

Production and Trade. Bahrain is the center of important pearl fisheries in the Persian Gulf. Oil was discovered in 1932 and is being exploited by the Standard Oil Company of California and the Texas Corporation through the Bahrain Petroleum Company. Other products are sailcloth, boats, reed mats, and dates. White donkeys are raised.

In 1946-47, the chief exports were pearls (Rs676,290); sugar (Rs931,020); tea (Rs1,310,890); rice (Rs374,440); wheat (Rs2,276,390); cotton piece goods (Rs910,970). Chief sources of revenue are oil royalties and customs duties. The 1946 revenue totaled Rs7,040,010 (Rupee = \$U.S.0.3016; average for year). Ruler: Sheik Sir Salman bin Hamad al Khalifa (in treaty relations with the United Kingdom).

BAKER ISLAND. An island in the Pacific (just north of the equator; 176° 31' W.); discovered by Michael Baker, of New Bedford, Mass. in 1832. A possession of the United States, it was colonized by American citizens in 1935. The island is less than a mile in diameter. By an Executive Order issued May 13, 1936, the island was placed under the jurisdiction of the U.S. Department of the Interior. Its strategic importance lies in its position between Hawaii and Pago Pago, American Samoa, and in

pansion included a moderate increase in the interest rates on short-term government securities and in the Federal Reserve discount rate; lowering of the support prices for medium and long-term government bonds; increase in reserve requirements of member banks, and reimposition of controls over consumer instalment credit.

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As other money rates went up the banks increased the interest rates charged on their loans to customers. The average rate on business loans at banks in 19 selected financial centers increased from about 2.1 percent in December, 1947, to 2.6 percent in September, 1948. Rates on mortgage loans also went up about $\frac{1}{2}$ percent during the year.

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authority to reinstitute the controls on consumer instalment credit that were first imposed in 1941 as an anti-inflationary measure and allowed to expire in November, 1947. The Board's restrictions on down payments and maturity terms in connection with instalment purchases of automobiles and other durable consumer goods were restored on Sept. 20, 1948, thus placing some restraint on the further expansion of consumer credit by banks, finance companies and other institutions.

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Net profits of member banks in the first half of 1948, amounting to \$292 million, were about on a level with those of the preceding six months but somewhat below those for the first half of 1947. This decline was accounted for principally by the fact that a recent ruling of the Bureau of Internal Revenue permitted banks to set aside from current earnings substantial amounts as reserves for bad debts.

—SAMUEL S. SHIPMAN

BAPTIST CHURCHES. Congregational in character, without a general authoritative head, the 23 Baptist groups in the United States have a total membership of 15,093,530, of which the four major conventions account for 14,369,588 members.

Northern Baptist Convention. Organized in 1907, it represents the cooperative interests of 7,243 churches with 1,541,991 members in the North and West. Its home and foreign missions, social, relief, and hospital activities are carried on by 7 national boards and societies, 33 state conventions and 14 city missions. Headquarters: 152 Madison Ave., New York 16, N.Y.

Southern Baptist Convention. Formed in 1845 upon the withdrawal from the General Missionary Convention over the issue of slavery. The largest Bap-

tist group in the world it has 26,401 churches, 24,791 ordained ministers and 6,270,819 members in the United States, and 565 foreign missionaries. In 1947 the Convention maintained 59 schools and colleges with nearly 50,000 students enrolled. Total contributions for the same period was \$115,226,949; church property was valued at \$313,053,779. Headquarters, 127 Ninth Ave. North, Nashville, Tenn.

National Baptist Convention of America. Organized in 1880, the so-called "unincorporated" Convention held its 68th Annual Session in the Municipal Auditorium at Oakland, Cal., Sept. 8-12, 1948. The representation was 22,820 churches, the ordained ministers were 19,850, the numerical strength reported by the Statistician was 3,721,850 in the United States with 380,000 members from Canada, West Indies, Republic of Panama, Canal Zone, Liberia, and West Coast of Africa. These are regarded as in the Foreign Mission Field and are supervised by 161 Missionaries. The Convention maintains 8 colleges and Theological Seminaries. The total income for this past Convention Year was \$686,925. Officers: Rev. G. L. Prince, Galveston, Tex., President; Rev. G. Goings Daniels, Georgetown, S.C., Secretary; Rev. A. A. Lucas, Houston, Tex., Treasurer. Headquarters: 523 Second Ave. North, Nashville, Tenn.

Other Baptist Conventions. Generally considered the older and parent body of Negro Baptists, the National Baptist Convention, U.S.A., Inc., has a total of 25,000 churches and 4,122,315 members in the United States. This "incorporated" Convention was separated from the above Convention in 1916.

Centering in North Carolina where it was organized in 1727, the Free Will Baptists have 3,768 churches, 3,559 ministers, and 255,127 members in the United States. There were 11,228 baptisms in 1947 and 90,627 attendants in Sunday and Bible schools. Income from contributions totaled \$860,264 and church property was valued at \$3,825,637.

BAPTIST FEDERATION OF CANADA, The. This federation comprises the Maritime and the Ontario and Quebec Conventions and the Baptist Union of Western Canada. It has a total of 1,224 churches, 732 ministers, and 140,787 members in Canada. There were 4,260 baptisms in 1948, and 70,537 students attended Sunday and Bible schools. Foreign missionaries totaled 103 and served 35,000 members of mission churches. Income from contributions \$3,472,864. Headquarters, 8 Market Square, Saint John, New Brunswick.

BARBADOS. An island colony of the British West Indies. Area: 166 square miles. Population (Dec. 31, 1946): 195,398. Capital, Bridgetown. Sugar is the most important agricultural product; the 1947 yield was 111,232 tons from 40,486 acres. A total of 1,821,853 gallons of rum were produced in 1946. Other products are molasses, tamarinds, cotton, and margarine. Trade (1946): imports £4,992,492; exports £3,142,164. Finance (1948-49 est.): revenue £1,728,355; expenditure £2,109,068. The deficit will be met from the surplus balance of £1,213,901 (on Apr. 1, 1948).

The governor, Sir H. R. R. Blood (appointed February, 1947), is assisted by an executive council, an executive committee, and a legislative council of 9 members. There is also an elective House of Assembly of 24 members.

BARLEY. The world production of barley for 1948, according to the *Foreign Agriculture Circular* (Dec.

13, 1948) of the Office of Foreign Agricultural Relations, U.S. Dept. of Agriculture, was estimated at 2,425 million bushels. Yields of the chief producing countries during 1948 (in bushels) were: China 353,565,000, United States 317,240,000, U.S.S.R. 310,000,000 (in 1947), Canada 154,643,000, India (including Pakistan) 102,000,000 (1948-49 forecast), Great Britain 93,987,000, Turkey 90,000,000, Spain 80,000,000, Denmark 62,004,000, French Morocco 58,500,000, France 57,500,000, Algeria 41,000,000, Iran 40,000,000, Argentina 30,000,000 (1948-49 forecast), Lebanon 23,000,000, Australia 16,000,000 (1948-49 forecast).

United States. Barley production in the United States totaled 317,037,000 bushels in 1948 (*Crop Report*, December, 1948; U.S. Dept. of Agriculture). The crops of the major producing States (in bushels) were: North Dakota 55,440,000, California 49,471,000, South Dakota 34,914,000, Minnesota 34,132,000, Montana 24,304,000, Colorado 15,275,000, Oregon 13,420,000, Idaho 12,276,000, Nebraska 9,204,000, and Wisconsin 7,752,000. The season average price (preliminary for the United States) received by farmers was \$1.21 per bushel.

BASEBALL. America's national pastime put on two of its best shows of all time in 1948, with spirited pennant races in both major leagues, and the result was that attendance soared to a record high of more than 20 million.

Boston's Braves, the St. Louis Cardinals, and Brooklyn's Dodgers battled most of the season for the top spot in the National League, the Cards and Dodgers wilting in the stretch. Led by a great pitching duo of Johnny Sain and Warren Spahn, Billy Southworth's Braves held together to give Boston its first National League flag since 1914.

While Boston was wrapping up its championship, strange things were taking place in the American League, where perhaps the tightest race in the annals of the sport was being waged.

As late as August, Cleveland's Indians, Boston's Red Sox, New York's Yankees, and Philadelphia's Athletics were virtually locked in a first-place tie, only a few percentage points separating them. The Athletics cracked first, less than two weeks before the regular campaign ended, but the other three teams fought on. The day before the schedule closed the Yankees were eliminated, but the sun set on the final day of the season with the Indians and Red Sox still deadlocked for first place. This brought about the first play-off in American League history the next day. Playing in Boston, the Indians gained an 8-3 victory over the Red Sox to give Cleveland its first pennant since 1920. Rookie Gene Bearden was the winning pitcher.

Cleveland's playing-manager, Lou Boudreau, then guided his men through a stirring World Series to triumph by four games to two. Bob Feller, fulfilling his ambition to pitch in a World Series, lost a heart-breaking two-hitter in the first game, which the Braves won by 1-0. Cleveland then came back to capture three games, 4-1, 2-0, and 2-1, but Boston kept its hopes alive by routing Feller and winning the fifth battle, 11-5. The Indians pinned down the world championship in their next start, triumphing 4-3, as rookie Bearden checked a Boston rally in the eighth inning.

The series victory capped a great year for American Leaguers, for the same circuit had won the All-Star game from the National Leaguers, 5-2, in midseason. Cleveland also smashed two attendance records, one in the fifth game of the series when 86,288, largest crowd to ever see a ball game, jammed Municipal Stadium on the shores of Lake

its use as a refueling station for air and water traffic on the route between Hawaii and New Zealand.

BALEARIC ISLANDS. A group of four islands—Majorca (Majorca), Menorca (Minorca), Ibiza (Iviza), and Formentera—and 11 islets (Cabrera is the largest), in the western Mediterranean. They constitute a province of Spain. Area: 1,936 square miles. Population (1947 est.): 437,339. Capital: Palma (on Mallorca), 135,419 inhabitants.

BALKAN STATES. The countries of the peninsula south of the Danube, and bounded by the Adriatic, Aegean, and Black seas. See ALBANIA, BULGARIA, GREECE, ROMANIA, TURKEY, YUGOSLAVIA.

BANKS AND BANKING. Banking operations in 1948 continued to be greatly influenced by the strong inflationary pressures prevailing in the economy, and in turn they played an important part in contributing to the forces of inflation. Business outlays for plant and equipment, and consumer ex-

and the rising price level. After a slight seasonal decline in business loans during the first half of 1948, they resumed their increase in the second half, although at a slower tempo than in 1947. Farmers continued to borrow large amounts from the banks to finance increased operations and purchases of farm equipment and other supplies. In the 15 months ending September, 1948, short-term agricultural credit increased by more than 25 percent. Similarly, commercial banks continued to expand consumer loans made largely for the purpose of buying automobiles, household appliances, and other durable goods. They accounted for about a half of the total increase in short-term consumer credit during the year, totaling 8,000 million dollars. With the reimposition of consumer credit controls in September, the growth of consumer installment credit began to slow down.

Increased expenditures for housing construction, stimulated by liberalized insurance of mortgages by the Federal government, as well as higher turnover on existing homes, resulted in a large expansion of real estate loans by commercial banks.

INVESTMENTS, LOANS AND DEPOSITS OF WEEKLY REPORTING BANKS IN 94 LEADING CITIES
(Monthly data are averages of weekly figures. In millions of dollars)

Months of 1948	U.S. government obligations	Other securities	Commercial, industrial and agricultural loans	Loans to brokers and dealers in securities	Other loans for purchasing or carrying securities	All other loans	Demand deposits adjusted	Time deposits (except interbank)
January	37,610	4,253	14,704	651	835	7,125	48,843	14,606
February	36,754	4,191	14,636	707	787	7,270	47,709	14,717
March	35,000	4,294	14,522	852	761	7,337	46,721	14,784
April	35,398	4,321	14,258	833	754	7,406	46,331	14,799
May	35,560	4,227	14,218	903	768	7,542	46,640	14,816
June	35,134	4,213	14,223	1,046	776	7,650	46,792	14,927
July	34,709	4,304	14,469	1,030	775	7,879	46,559	14,967
August	34,822	4,376	14,790	758	751	7,956	46,852	14,920
September	34,118	4,443	15,088	848	725	8,055	46,387	14,926
October	33,300	4,352	15,388	678	705	8,081	46,864	14,940
November	33,206	4,196	15,528	814	680	8,156	46,936	14,915
December	33,227	4,167	15,551	1,157	670	8,196	47,787	14,909

pensitures for housing and durable goods, brought about a considerable expansion of loans. In addition, the increasingly large expenditures of the Federal Government for armaments and foreign aid and the expanded public works expenditures of State and local governments generated strong business activity making necessary increased use of bank accommodations.

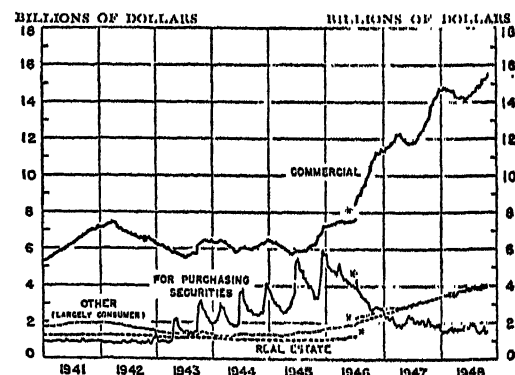
The policy of restraining expansion of bank credit by using Treasury surplus funds to retire government obligations held by the Federal Reserve Banks was continued. Supplementing this means of credit control, interest rates were increased on short-term government securities, while further restriction on bank credit was achieved by increasing the reserve requirements of member banks, thus curtailing their power to lend and invest funds.

Commercial Banking. In the twelve months ending June 30, 1948, total loans by all commercial banks increased by more than \$6,000 million, while bank investments in other than U.S. Government securities were expanded by an additional \$700 million. With the exception of the preceding year, this was the largest expansion of bank credit ever recorded in a similar period. The increase was noted throughout the country, but was particularly large in rural areas and small cities. In the second half of 1948, bank credit continued to show a marked upward trend. Investments, loans, and deposits of reporting member banks in 94 leading cities are shown in the accompanying table.

The principal factor in the expansion of loans was the big demand for bank credit by business enterprises, due to the high rate of operations

Savings and loan associations, savings banks, and insurance companies also substantially increased their investment in real estate mortgages. Of the principal classes of bank loans, only those for purchasing or carrying securities failed to show a significant increase.

An outstanding feature of the year was the slowing up in the rate of increase of bank loans as compared with 1947. Thus, in the first eleven

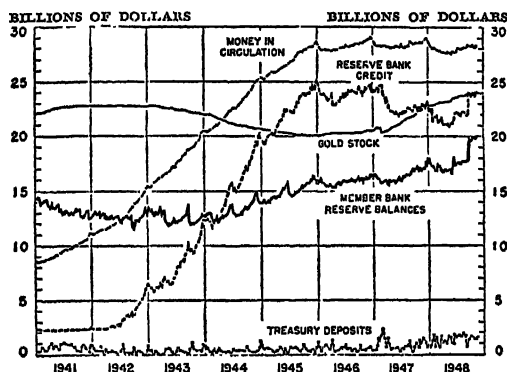


LOANS AT MEMBER BANKS IN LEADING CITIES
(Excludes loans to banks; Wednesday figures. * Revised series July 2, 1946)

months of 1948 the expansion in the total loans of weekly reporting member banks, which constitute about 60 percent of loans of all commercial banks, was only \$1,800 million as against a rise of \$3,800 million in the same period of 1947. This

trend was due to the more cautious lending policy of commercial banks, in line with the policy urged by the monetary authorities, to the ability of businesses to finance a large part of their capital expansion programs out of their record profits, and to increased lending by insurance companies and other financial institutions.

In the year ending October, 1948, loans extended to private borrowers by life insurance companies, mutual savings banks, and savings and loan associations increased by about \$9,000 million. Almost half of these funds were obtained by the sale of long-term government securities largely acquired during the war. Through liquidation of these securities the insurance companies were enabled to supply more than half the funds loaned



MEMBER BANK RESERVES AND RELATED ITEMS
(Wednesday figures; latest shown are for November 17)

to commercial firms and real estate buyers during the year.

Commercial banks also absorbed a large volume of new securities issued by State and local governments to finance public works and to provide funds for State bonus payments to veterans. Of the total increase in the debt of State and local governments, amounting to about \$1,500 million from June, 1947, to September, 1948, the commercial banks took about half. In the year ending October, 1948, the banks reduced their holdings of government securities by about \$7,000 million, mainly in order to replenish the reserve funds lost as a result of the Treasury's use of its cash surplus to retire government debt held by the Reserve Banks.

Deposits and Money Supply. In 1948, the expansion in privately owned deposits and currency was considerably smaller than during the preceding year. Total time and demand deposits, excluding government and interbank deposits, increased by \$2,300 million in the twelve months ending June, 1948, as compared with \$6,500 million in the preceding year. After declining in the first half of 1948, deposits again began to rise during the second half of the year. To a considerable extent this increase was due to support of the government bond market by the Federal Reserve Banks, which purchased large amounts of long-term government securities sold by insurance companies and other non-bank owners.

In part the increase in deposits was due to the expansion of bank loans. Another factor was the continued inflow of gold from abroad, at the rate of about \$1,500 million a year. These factors, however, were counteracted by the use of the Treasury excess of receipts over expenditures to retire government securities held by the Reserve Banks and

the commercial banks and to increase Treasury deposits. As a result, the private money supply, that is, demand deposits plus currency outside banks, was contracted by almost \$3,000 million during the first 10 months of the year.

The contraction in the money supply was offset by the more rapid turnover of demand deposits, which contributed to the inflationary pressures. In banks in leading cities outside New York, the turnover of demand deposits, which was on a low level from 1943 to 1947, increased to about the average of the few years before the war.

Strong Liquid Position. The year found the commercial banks in a strong liquid position, assuring them of the ability to meet any prospective demand for bank credit. While excess reserves of banks were only moderate, the banks held (as of June 30) \$65,000 million of U.S. government securities, more than 40 percent of their total assets. Of these obligations, about \$20,000 million matured or were callable in less than one year and over \$50,000 million in less than five years. Since the maturing securities may be turned in for cash while the others may be sold in the open market or to the Federal Reserve Banks, the banks were in a position to obtain ample funds with which to make further large increases in loans. In fact, the purchases made by the Federal Reserve System to maintain an orderly market for government securities provided the basis for expansion of bank credit by several times the amount of such purchases.

The policy of supporting the government bond market, while at the same time attempting to curb credit expansion, continued to present specially difficult problems to the monetary authorities. To keep up the price of government securities the Federal Reserve System made large purchases of obligations offered both by banks and non-bank holders. These purchases, in turn, resulted in a continuation of low interest rates and in the creation of abundant reserves to support credit expansion by banks.

Particularly important in easing the reserve position of banks were the large sales of long-term U.S. government bonds by insurance companies, mutual savings banks, and savings and loan associations in order to put the proceeds into private loans and investments yielding a higher return. Most of these securities were purchased by the Federal Reserve System, thereby supplying a corresponding amount of reserves to the commercial banks as the funds were deposited.

Credit Policies. The credit policies of the Federal Reserve System and the debt management and fiscal program of the Treasury continued to be directed to the curbing of monetary and credit expansion, insofar as this could be accomplished while maintaining a stable market for government securities. To this end, bank reserves were reduced by using the surplus funds of the Treasury primarily for retiring government debt held by the Reserve Banks. Cash receipts by the Treasury in the first three-quarters of 1948 exceeded expenditures by about \$9,000 million. This surplus was supplemented by net sales of nonmarketable and investment bonds to the amount of \$1,300 million. The bulk of these surplus funds were used to retire securities held by the Federal Reserve or to build up Treasury deposits at the Reserve Banks, and these operations resulted in a contraction of bank reserves of almost \$6,000 million in the period from January to September. Most of this reduction took place in the first quarter.

Other measures adopted to restrict credit ex-

pansion included a moderate increase in the interest rates on short-term government securities and in the Federal Reserve discount rate; lowering of the support prices for medium and long-term government bonds; increase in reserve requirements of member banks, and reimposition of controls over consumer instalment credit.

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—SAMUEL S. SHIPMAN

BAPTIST CHURCHES. Congregational in character, without a general authoritative head, the 23 Baptist groups in the United States have a total membership of 15,093,530, of which the four major conventions account for 14,369,588 members.

Northern Baptist Convention. Organized in 1907, it represents the cooperative interests of 7,243 churches with 1,541,991 members in the North and West. Its home and foreign missions, social, relief, and hospital activities are carried on by 7 national boards and societies, 33 state conventions and 14 city missions. Headquarters: 152 Madison Ave., New York 16, N.Y.

Southern Baptist Convention. Formed in 1845 upon the withdrawal from the General Missionary Convention over the issue of slavery. The largest Bap-

tist group in the world it has 26,401 churches, 24,791 ordained ministers and 6,270,819 members in the United States, and 565 foreign missionaries. In 1947 the Convention maintained 59 schools and colleges with nearly 50,000 students enrolled. Total contributions for the same period was \$115,226,949; church property was valued at \$313,053,779. Headquarters, 127 Ninth Ave. North, Nashville, Tenn.

National Baptist Convention of America. Organized in 1880, the so-called "unincorporated" Convention held its 68th Annual Session in the Municipal Auditorium at Oakland, Cal., Sept. 8-12, 1948. The representation was 22,820 churches, the ordained ministers were 19,850, the numerical strength reported by the Statistician was 3,721,850 in the United States with 380,000 members from Canada, West Indies, Republic of Panama, Canal Zone, Liberia, and West Coast of Africa. These are regarded as in the Foreign Mission Field and are supervised by 161 Missionaries. The Convention maintains 8 colleges and Theological Seminaries. The total income for this past Convention Year was \$686,925. Officers: Rev. G. L. Prince, Galveston, Tex., President; Rev. G. Goings Daniels, Georgetown, S.C., Secretary; Rev. A. A. Lucas, Houston, Tex., Treasurer. Headquarters: 523 Second Ave. North, Nashville, Tenn.

Other Baptist Conventions. Generally considered the older and parent body of Negro Baptists, the National Baptist Convention, U.S.A., Inc., has a total of 25,000 churches and 4,122,315 members in the United States. This "incorporated" Convention was separated from the above Convention in 1916.

Centering in North Carolina where it was organized in 1727, the Free Will Baptists have 3,768 churches, 3,559 ministers, and 255,127 members in the United States. There were 11,228 baptisms in 1947 and 90,627 attendants in Sunday and Bible schools. Income from contributions totaled \$860,264 and church property was valued at \$3,825,637.

BAPTIST FEDERATION OF CANADA, The. This federation comprises the Maritime and the Ontario and Quebec Conventions and the Baptist Union of Western Canada. It has a total of 1,224 churches, 732 ministers, and 140,787 members in Canada. There were 4,260 baptisms in 1948, and 70,537 students attended Sunday and Bible schools. Foreign missionaries totaled 103 and served 35,000 members of mission churches. Income from contributions \$3,472,864. Headquarters, 8 Market Square, Saint John, New Brunswick.

BARBADOS. An island colony of the British West Indies. Area: 166 square miles. Population (Dec. 31, 1946): 195,398. Capital, Bridgetown. Sugar is the most important agricultural product; the 1947 yield was 111,232 tons from 40,486 acres. A total of 1,821,853 gallons of rum were produced in 1946. Other products are molasses, tamarinds, cotton, and margarine. Trade (1946): imports £4,992,492; exports £3,142,164. Finance (1948-49 est.): revenue £1,728,355; expenditure £2,109,068. The deficit will be met from the surplus balance of £1,213,901 (on Apr. 1, 1948).

The governor, Sir H. R. R. Blood (appointed February, 1947), is assisted by an executive council, an executive committee, and a legislative council of 9 members. There is also an elective House of Assembly of 24 members.

BARLEY. The world production of barley for 1948, according to the *Foreign Agriculture Circular* (Dec.

13, 1948) of the Office of Foreign Agricultural Relations, U.S. Dept. of Agriculture, was estimated at 2,425 million bushels. Yields of the chief producing countries during 1948 (in bushels) were: China 353,565,000, United States 317,240,000, U.S.S.R. 310,000,000 (in 1947), Canada 154,643,000, India (including Pakistan) 102,000,000 (1948-49 forecast), Great Britain 93,987,000, Turkey 90,000,000, Spain 80,000,000, Denmark 62,004,000, French Morocco 58,500,000, France 57,500,000, Algeria 41,000,000, Iran 40,000,000, Argentina 30,000,000 (1948-49 forecast), Lebanon 23,000,000, Australia 16,000,000 (1948-49 forecast).

United States. Barley production in the United States totaled 317,037,000 bushels in 1948 (*Crop Report*, December, 1948; U.S. Dept. of Agriculture). The crops of the major producing States (in bushels) were: North Dakota 55,440,000, California 49,471,000, South Dakota 34,914,000, Minnesota 34,132,000, Montana 24,804,000, Colorado 15,275,000, Oregon 13,420,000, Idaho 12,276,000, Nebraska 9,204,000, and Wisconsin 7,752,000. The season average price (preliminary for the United States) received by farmers was \$1.21 per bushel.

BASEBALL. America's national pastime put on two of its best shows of all time in 1948, with spirited pennant races in both major leagues, and the result was that attendance soared to a record high of more than 20 million.

Boston's Braves, the St. Louis Cardinals, and Brooklyn's Dodgers battled most of the season for the top spot in the National League, the Cards and Dodgers wilting in the stretch. Led by a great pitching duo of Johnny Sain and Warren Spahn, Billy Southworth's Braves held together to give Boston its first National League flag since 1914.

While Boston was wrapping up its championship, strange things were taking place in the American League, where perhaps the tightest race in the annals of the sport was being waged.

As late as August, Cleveland's Indians, Boston's Red Sox, New York's Yankees, and Philadelphia's Athletics were virtually locked in a first-place tie, only a few percentage points separating them. The Athletics cracked first, less than two weeks before the regular campaign ended, but the other three teams fought on. The day before the schedule closed the Yankees were eliminated, but the sun set on the final day of the season with the Indians and Red Sox still deadlocked for first place. This brought about the first play-off in American League history the next day. Playing in Boston, the Indians gained an 8-3 victory over the Red Sox to give Cleveland its first pennant since 1920. Rookie Gene Bearden was the winning pitcher.

Cleveland's playing-manager, Lou Boudreau, then guided his men through a stirring World Series to triumph by four games to two. Bob Feller, fulfilling his ambition to pitch in a World Series, lost a heart-breaking two-hitter in the first game, which the Braves won by 1-0. Cleveland then came back to capture three games, 4-1, 2-0, and 2-1, but Boston kept its hopes alive by routing Feller and winning the fifth battle, 11-5. The Indians pinned down the world championship in their next start, triumphing 4-3, as rookie Bearden checked a Boston rally in the eighth inning.

The series victory capped a great year for American Leaguers, for the same circuit had won the All-Star game from the National Leaguers, 5-2, in midseason. Cleveland also smashed two attendance records, one in the fifth game of the series when 86,288, largest crowd to ever see a ball game, jammed Municipal Stadium on the shores of Lake

Erie. The Indians also set a new season high of 2,620,627 for attendance. The over-all total of 11,150,099 for the American League was a record. National League crowds fell off slightly, the total being 9,770,743.

Boudreau's great play afield, managerial ability, and a batting average second only to that of Ted Williams, the league's leader, earned for him the American League's most valuable player award. Stan Musial, brilliant outfielder of the Cardinals, not only paced the National League in batting, but was voted that circuit's most valuable man. Alvin Dark, young shortstop of the Braves, was named the majors' best rookie.

The season saw more than the usual number of managerial changes, the most startling of which involved the New York clubs. Leo Durocher, under suspension in 1947, took over the reins of the Dodgers from Burt Shotton, who had guided Brooklyn to the pennant in 1947. But in July, Durocher was dropped by Brooklyn at the same time the Giants announced the retirement of Mel Ott, and Durocher wound up as the new pilot of the Giants while Shotton returned to manage the Dodgers. Bucky Harris, who in his first year with the Yankees in 1947 had led them to the world championship, was ousted in a surprise move after the season ended. Casey Stengel, one-time manager of the Dodgers and Braves, was signed for the job. Red Rolfe, former Yankee star, returned to baseball to replace Steve O'Neill, deposed manager of the Detroit Tigers, and Jack Onslow replaced Ted Lyons as skipper of the Chicago White Sox.

Montreal won the International League pennant, the Governors' Cup playoffs, and the Little World Series. Other champions were Indianapolis, American Association; Oakland, Pacific Coast League; Birmingham, Dixie Series; Nashville, Southern Association; Fort Worth, Texas League; Scranton, Eastern League; Homestead Grays, Washington, Negro World Series and Negro National League; Birmingham Black Barons, Negro American League, and Fort Wayne General Electrics, national semi-pro.

Southern California carried off the championship of the National Collegiate Athletic Association, while Dartmouth's nine captured the Eastern Intercollegiate League laurels. Metropolitan Conference honors were won by New York University.

—THOMAS V. HANEY

BASKETBALL. The 1947-48 court season was marked by the fine caliber of competition within intercollegiate ranks and the continued upswing of crowds attending both amateur and professional contests. New York's Madison Square Garden, with the Olympic trials added to its calendar, enjoyed a banner campaign, the double-headers in that arena averaging crowds of more than 17,000.

Generally considered the top college five in the nation was that from the University of Kentucky, the Wildcats winning the Southeastern Conference crown again and adding the National Collegiate Athletic Association title to its long list of conquests. Kentucky took the N.C.A.A. diadem by routing Baylor, the Southwest Conference king, 58-42, on the Garden court. Alex Groza led the attack with 14 points, with Ralph Beard, another sharpshooter, accounting for 12. Kentucky gained the title round by eliminating Holy Cross, defending champion, in the Eastern regional final while Baylor reached the last round by upsetting Kansas State in the Western play-offs.

Kentucky met a stumbling block in the final of the Olympic trials at the Garden, bowing to the

Phillips 66 Oilers of Bartlesville, Okla., Amateur Athletic Union rulers, 53-40, in a thriller. Only their tremendous height advantage enabled the Oilers to win, for the Wildcats matched point for point most of the way, Beard alone accounting for 23 tallies, Bob Kurland, 7-foot star, scored 20 for the victors, contributing three field goals in the last six minutes and gaining control of the rebounds at crucial times throughout the game.

Among other outstanding quintets was St. Louis University, the Billikens turning in their best performances of the year in the Garden to annex the annual invitation tournament. A crowd of 18,491 saw the Missouri five conquer New York University, 65-52, in the final round. The victory gave St. Louis a bid to the Olympic tryouts, but the invitation was rejected when officials of the university said the team had missed too much classwork to permit additional tournament competition.

The Olympic team, coached by Omar Brownning of the Oilers, included the following players: Bob Kurland, Jesse Renick, Gordon Carpenter, R. C. Pitts and Lew Beck of the Oilers; Alex Groza, Wallace Jones, Cliff Barker, Ken Rollins and Ralph Beard of Kentucky; Vince Boryla of the Denver Nuggets, Don Barksdale of the Oakland Bittners, Jack Robinson of Baylor and Ray Lammpp of N.Y.U. The squad compiled a brilliant record in England to win the unofficial Olympic title. See OLYMPIC GAMES.

One of the biggest surprises of the year came in March at Madison Square Garden, New York, when Notre Dame halted N.Y.U., 64-59, to snap a Violet winning streak of 19 games. The Irish, sparked by the brilliant Kevin O'Shea, fought back from a 32-23 deficit at the half to win.

Columbia retained its Eastern Intercollegiate League crown, its big center, Walter Budko scoring 206 points to break his own league record of 191 set during the previous campaign.

Other major collegiate champions were Michigan, Big Nine; Kansas State, Big Seven; Baylor, Southwest; Oklahoma A. & M., Missouri Valley; Arizona, Border Conference; Kentucky, Southeastern; Washington, Pacific Coast; Beloit, Midwest; Brigham Young, Mountain States, and Louisville, National Association of Intercollegiate Basketball.

The Phillips 66 Oilers captured A.A.U. laurels for the sixth consecutive time when they defeated the Denver Nuggets, 62-48, in the national tourney final. The Nashville Goldblumes of Tennessee regained the A.A.U. women's title.

In Canada, The Dominion championship fell to the Vancouver Clover Leafs, while the Carlston Shooting Stars took the Western Canadian women's crown.

The debut of a number of strong quintets marked professional competition, and one of the newcomers, the Baltimore Bullets, carried off honors in the long season of the Basketball Association of America. Baltimore annexed the title by taking the final play-offs from Philadelphia's Warriors, defending champions. The Minneapolis Lakers won laurels in the National League.

—THOMAS V. HANEY

BASUTOLAND. A British native territory in southern Africa. Area, 11,716 square miles. Population (1936 census), 562,411, including 559,377 natives. Capital, Maseru. In 1946 there were 86,509 pupils enrolled in 1,451 elementary and secondary schools of all kinds. Expenditure for education for 1946-47 was £143,525. Principal crops are wheat (350,000 bags in 1947); maize (715,000 bags); and sorghum (490,000 bags). Barley, oats, vegetables also

are grown. Sheep-raising is highly developed. Imports, consisting largely of agricultural and domestic supplies, were valued at £1,033,328 in 1942 and exports at £459,509. In 1946-47 revenue totaled £827,100; expenditure £861,351. On Mar. 31, 1947, there was an excess of assets over liabilities of £492,422. The territory is governed by a resident commissioner under the direction of the High Commissioner for the British High Commission Territories in South Africa.

BATTELLE MEMORIAL INSTITUTE. An Institute founded in 1929 to promote research and education in the industrial sciences, to conduct research on a non-profit basis for industry and government, maintain a program of fundamental scientific investigation, and to offer fellowships and training in research methods to selected post-graduate students in physical sciences. The fields of investigation include metallurgy, chemistry, fuels, ceramics, physics, electrochemistry, welding technology, graphic arts, corrosion technology, mining and mineral beneficiation, production engineering, agricultural science, and many specialized technologies. Sponsored research in 1948 totaled \$1,740,000. The Institute has been a source of numerous recent contributions to industrial technology, particularly those affecting basic products and processes. Its staff comprises 1,300 scientists, technologists, administrative, and service personnel. Director: Clyde Williams. Offices: 505 King Ave., Columbus 1, Ohio.

BATTLE MONUMENTS COMMISSION, American. A Commission created by Congress in 1923 to erect memorials to commemorate the services of the American armed forces in World War I. It administers and maintains World War I American military cemeteries and memorials in Europe. The Commission is charged by Public Law 456, 79th Congress, with the planning and erection of memorials to commemorate the services of the American armed forces in World War II, with control of the erection by American citizens, States, municipalities or associations of such memorials in foreign countries or upon federally owned or controlled property, except national cemeteries, and it is responsible for all permanent construction in permanent American military cemeteries located outside of the United States and its Territories and possessions. Acting Chairman: Brig. Gen. Robert G. Woodside.

BECHUANALAND. A British protectorate in southern Africa. Area: 275,000 square miles. Population (1946 census): 252,869, including 2,325 Europeans. Cattle-raising and dairying are the chief industries. Livestock (1946): 699,835 cattle, 153,318 sheep, and 304,462 goats. Gold and silver mined in 1945 was valued at £95,202. Trade (1946): Imports £93,072; exports £619,835. Finance (1946-47): revenue £469,075; expenditure £405,071.

The territory is administered by a resident commissioner, acting under the High Commissioner for the British High Commission Territories in South Africa. The headquarters of the administration is Mafeking, Cape Province. The native tribes are ruled by their chiefs as before the territory was incorporated in the British sphere, but now under the protection of the King. Resident Commissioner: A. Sillery.

BELGIAN CONGO. Belgium's only colony, located in central Africa and embracing a large part of the

basin of the Congo River. Area: approximately 912,000 square miles. Capital, Léopoldville (pop. 117,524).

Population. The native population on Jan. 1, 1948, was estimated at 10,805,000. Whites numbered 35,772, of which 67 percent were Belgians. Most of the natives are Bantu and Sudan Negroes, with a few Nilotic tribes in the northeast and some Pygmies scattered in the interior.

Education. Most of the schools are provided by Christian missions, though many are subsidized by the government. In 1946 there were 5,903 subsidized primary schools (311,388 pupils) and 56 subsidized secondary schools (3,872 pupils). Not subsidized were 199 primary schools (46,827 pupils), 8,994 rural schools (246,424 pupils), and 24 professional schools (1,343 pupils).

Religion. The great mass of the natives is still pagan. The work of the Christian missions is carried on by 4,150 (Jan. 1, 1947) missionaries (three-fourths of whom are Roman Catholics).

Production. The country's economy is based on agriculture and mining. Agriculture is widespread, while mining is concentrated in the eastern and southeastern regions. Industrially speaking the Belgian Congo is one of the most advanced colonies in Africa. The natives have shown themselves readily adaptable to work in mines, factories, and offices.

Cotton is the principal agricultural and money crop; a total of 306,500 hectares yielded 122,743 metric tons in 1946. Two types of coffee are produced—Arabian and Robusta—the total 1947 production was estimated at 33,000 metric tons. Palm oil, the chief forest product, yielded 134,774 metric tons in 1945. Rubber production was greatly stimulated by World War II but has since declined; a total of 4,080 metric tons being produced in 1947 against 11,287 metric tons exported in 1944. Other agricultural products include cacao, fibers, cinchona bark, peanuts, corn, manioc, rice, sugarcane, and pyrethrum.

The Congo is one of the world's richest mineral regions, copper being the chief mineral product. Industrial diamonds, cobalt, tantalite, and tin also are important. Production in 1947 (metric tons): copper 150,800; tin 15,120; cobalt 2,140 (6 months). During the first 6 months of 1947 some 2,399,073 carats of industrial diamonds and 254,175 carats of gems were produced. Gold output has declined steadily, amounting to 10,895 kg. of crude gold in 1946. Silver, zinc, wolframite, lead, platinum, and tungsten are other minerals.

Foreign Trade (1947): imports 6,452.4 million francs; exports 7,602 million francs.

Finance. In 1947 government revenue totaled 2,210,810,000 francs; expenditure 2,349,850,000 francs. Public debt (Jan. 1, 1947) 5,035,718,161 francs.

Transportation. The Congo River and its larger tributaries are navigable for varying distances. The Congo itself is broken at several points by cataracts, around which railroads have been built. Navigable rivers total more than 7,500 miles, railways 3,106 miles, and roads 56,000 miles. Before the war the Congo was served by several international airways and possessed an extensive internal network operated by the Sabena Company.

Government. The administration is under the general supervision of the Belgian Minister of Colonies, normally an appointee of the King, and is assisted by a colonial council. At the head of the actual administration is a governor general, assisted by a vice governor, state inspectors, and six provincial governors. The provinces are in turn divided

into districts and these are subdivided into administrative territories. Governor General: Eugène Jungers.

Ruanda-Urundi, Territory of. This Territory, formerly a League of Nations mandate, became a Trust Territory of the United Nations on Dec. 13, 1946. The Territory has an area of 20,500 square miles and a population (Jan. 1, 1946) of 3.5 million. The white population numbered 2,232; the Asiatic 1,885. Capital: Usimbura. In 1925 the Territory was joined administratively with the Belgian Congo and placed under the direction of a governor. In 1945 there were 3,609 schools with 224,314 pupils. Cattle-raising is important. The chief exports are cotton, coffee, tobacco, and kapok. Minerals include tin and gold. In 1945 imports were valued at 222,164,567 francs and exports at 322,232,484 francs. Revenue and expenditure for 1948 were estimated at 200,458,000 francs and 230,454,000 francs, respectively. Governor: Maurice Simon.

BELGIUM. A kingdom of western Europe. Capital, Brussels. (See below under *Government and Events*.)

Area and Population. The area of Belgium, including the districts of Eupen and Malmedy, is 11,775 square miles. On July 1, 1947, the estimated population was 8,421,000. The people are of two distinct races, the Flemings and the Walloons. French and Flemish are the languages spoken. Vital statistics in 1947 (rate per 1,000): births 17.8, deaths 13.3; marriages 9.9. Chief cities (1947 populations): Greater Brussels, 1,290,534; Antwerp, 259,622; Ghent, 162,488; Liège, 150,103.

Education and Religion. On Jan. 1, 1946, there were 13,065 elementary schools and 1,063,980 pupils; 271 secondary schools and 83,856 pupils. In 1945-46 the 88 normal schools had 9,306 students. In addition there were many free or private schools, mostly under ecclesiastical care. The four universities (Brussels, Ghent, Liège, and Louvain) had a total of 16,017 students in 1946-47. There were also several state agricultural institutes. In addition to the Royal Academy of Fine Arts, there were 4 Royal conservatoires, 117 schools of music, and 57 schools of design. The motion-picture houses had a total seating capacity of 526,770 in 1947. There is full religious liberty. Roman Catholicism is the predominant religion.

Production. Belgium's manufacturing, mining, intensive agriculture, and extensive foreign commerce enable it to support one of the densest populations of Europe. (712 per sq. mi.). Leading crops are wheat, rye, oats, potatoes, and sugar beets. The grain harvest, in 1948, was 350,000 tons, somewhat less than normal. Meat production, in 1947, averaged 13,500 tons monthly; butter production, 2,100 tons monthly. Livestock (Jan. 1, 1947) included 304,446 horses, 1,651,576 cattle, 217,312 sheep and goats, and 839,493 pigs.

Belgium possesses large mineral resources, especially coal, iron, and zinc ores. The output of coal has been rising steadily since the end of the war, reaching 90 percent of the prewar level in September, 1948. In August, 2,180,000 tons of coal were mined, against 1,827,000 in August, 1947. Belgium is also an important producer of glass, paper, cardboard, cement, cotton, yarn, rayon, metal products, alcoholic beverages, etc. The index of industrial production stood at 121 in April, 1948 (1938=100).

Foreign Trade. For the year 1948 (last four months estimated), exports amounted to 70,758 million francs (61,656 million in 1947) and im-

ports to 86,710.5 million francs (85,560 million). (The foregoing figures include Luxembourg, a member of the Belgo-Luxembourg Economic Union.) The United States, Great Britain, France, the Netherlands, Argentina, Switzerland, and the Belgian Congo were the most important trading countries.

Transportation. Belgium has approximately 10,200 kilometers of state highways and provincial roads. In January, 1947, there were 4,956 kilometers of standard-gauge railway and 4,811 kilometers of narrow-gauge railway, of which 1,454 were electrified. There are 1,614 kilometers of navigable rivers and canals. The number of motor vehicles in 1946 was 221,788. On Jan. 31, 1947, the Belgian merchant marine comprised 63 vessels aggregating 183,121 tons net.

Finance. For 1946 revenue was estimated to total 1,328 million francs; expenditure, 1,603 million francs. The public debt on Dec. 31, 1947, amounted to 246,844 million francs. Net total money supply, June, 1948: 155,700 million francs. Exchange rate, 1948: 43.96 Belgian francs per U.S. dollar.

The 1949 budget, presented in October, 1948, estimated total expenditure at 71,600 million francs against revenue of 66,566 million francs. The 1949 deficit was estimated at 4,800 million francs; the 1948 deficit: 13,500 million francs.

Government. Belgium is "a constitutional, representative and hereditary monarchy." Legislative power is vested in the King, the Senate, and the Chamber of Representatives. All elections for the Senate and the Chamber are held on the principle of universal suffrage. The Senate comprises 107 elected members. In the Chamber of Representatives there are 202 members. Senators and Representatives serve for four years unless both, or one, of the houses are dissolved by the King, upon which event new elections must take place within 40 days. Ruler: King Leopold III (ascended the throne Feb. 23, 1934). In view of the detention of King Leopold in Germany during World War II, the Belgian Parliament in compliance with the Constitution on Sept. 20, 1944, elected Prince Charles, brother of the King, to be Regent of the Kingdom. The Regency was extended indefinitely by the law of July 17, 1945, which also barred the King's return to the throne without consent of Parliament. Premier: Paul-Henri Spaak (Socialist).

Events, 1948. Comparative political stability and economic prosperity, American style (abundance at high prices), relegated the anxious memories of the war to the remote past for most Belgians last year. More than ever the little country appeared as a show window for Europe; only there were not too many people who could afford the luxuries inside.

The Royal Question: More of the Same. The nationwide controversy about King Leopold III continued in its fourth year, unabated and with the end nowhere in sight. Leopold's prospects for an eventual return to the throne did not brighten during the year, in spite of his own strenuous efforts and the unflinching support of his faithful. New details concerning the King's attitude during the war came to light at the Nuremberg trial of the Nazi diplomats (see GERMANY). In a dispatch from Nuremberg, dated Feb. 6, 1948, the *New York Times* quoted evidence decidedly unfavorable to the King, which had been submitted at the trial of former Under Secretary of State Otto Meissner.

The evidence in question was contained in confidential reports sent to Herr Meissner in June,

1940, by a German officer, Lt. Col. Kiewitz, who had been assigned to supervise the King's movements while a prisoner of war.

It appears from one of Kiewitz' reports that Leopold, "asking for the strictest secrecy," revealed to his captors the hiding place, near Bordeaux, France, of the Belgian State treasure and of sealed boxes containing Belgian State documents. The King also took the initiative in bringing about the interview with Hitler, which, by his own admission, took place at Berchtesgaden on Nov. 13, 1944.

While the monarchical institution as such was not seriously challenged by anybody, except perhaps the insignificant Communist minority, the question of who should be King of the Belgians continued to divide the nation and became even more complicated during the year.

For, whereas in previous years public opinion had been split between the partisans of Leopold, on the Right, and the supporters of Prince Charles' regency, on the Left, a third potential occupant of the throne now emerged to the forefront of public interest: Prince Baudouin, heir apparent to the crown.

On Sept. 7, 1948, the Prince was 18 years old and thus became eligible to ascend the throne. In anticipation of this event, the executive council of the powerful Socialist Party voted on January 26 to demand the immediate abdication of Leopold, a move that automatically would have entailed the elevation to the throne of Prince Baudouin in September. However, Premier Paul-Henri Spaak, though a Socialist himself, did not approve the resolution which, he predicted, would result in harm to the young Prince, the dynasty, and the country. He accepted, however, a mandate to resume direct negotiations with the exiled King with a view to finding a way out of the perennial crisis.

Meanwhile, on January 20, Leopold had left his Swiss residence for a two months' vacation in Cuba. A reported plan to visit the United States did not materialize. Instead, the Regent, Prince Charles, and Premier Spaak paid an official visit to Washington, which lasted from April 4 to April 9. After a trip to Canada, the two statesmen returned to Belgium on April 18. The official explanation of this State visit was that it aimed at enlisting American support for the West European alliance formed at Brussels on March 17 (see below). No request for military assistance was put forward, according to a statement by Acting Secretary of State Robert A. Lovett on April 7.

Following the return to Europe of all parties concerned, Premier Spaak on May 29 visited Leopold at the latter's villa near Geneva, Switzerland. Two interviews took place, during which, according to Belgian press reports, the question of Baudouin's return to Belgium was the principal topic of conversation. Spaak was said to have urged the exiled monarch to permit his son to return to Belgium, regardless of the question of abdication, since the Prince was required by tradition to serve in the Army and to take his seat in the Senate after his 18th birthday.

Apparently the meeting was fruitless, for Prince Baudouin remained with his father and the latter made a new overt bid for the throne. In a letter to Spaak, dated June 22, and made public three days later, Leopold demanded a popular referendum to settle the royal question. The letter read in part: "I am in favor of a general consultation of all Belgians. If this consultation does not bring an indisputable majority in favor of my return to the

throne, I shall then abdicate. If a favorable majority is shown by the referendum, I would expect Parliament to put an end to the present Regency and vote a law bringing me back to the throne."

The King's formal demand for a referendum met with the same response as his earlier moves. The Socialists were flatly opposed to it, holding that a referendum would be unconstitutional as well as politically unwise. The Christian Social Party was in favor, while the Liberals appeared wavering.

After months of bickering, the drive for a referendum was stopped decisively on October 20, when a bill calling for such a "popular consultation" failed to gain the required majority in the Senate. The vote was even, 83 to 83, with the Socialists, Liberals, and Communists casting "No," and the Christian Socialists "Yes" votes. In view of the certainty of even more resolute rejection, no attempt was made by the pro-Leopold faction to introduce a similar bill in the Chamber of Deputies.

Spaak In and Out. In spite of the internal rift produced by the rankling dynastic question, the Coalition Government headed by Premier Paul-Henri Spaak held together through most of the year. At least three major attempts to unseat it were foiled and when it finally fell in November, it was, as so often happens in Belgian affairs, over a side issue.

The first crisis occurred toward the end of the preceding year. On Dec. 10, 1947, Socialists and members of the Christian Social party clashed bitterly, and even came to blows, in the Chamber of Deputies. A debate over woman suffrage, along with the royal question, provoked the fracas. The Christian Social ministers threatened to withdraw from the Cabinet, but when Spaak bluntly asked the House for a vote of confidence, "with no strings attached," he received it.

Next, in mid-February 1948, a wave of Communist-inspired strikes hit the coal industry and a number of public services. They were generally viewed as an attempt to wreck the Marshall Plan in Belgium and were dealt with firmly by the Government. Workers in public utilities received orders of "civil mobilization," and several hundred postmen were discharged from the service.

The General Federation of Labor sided with the Government in condemning the strikes which collapsed after a brief flurry of excitement. On February 18, the Government's handling of the strike situation was approved by the Chamber by an overwhelming vote of 146 to 18. Minor wage increases were granted to coal miners and utilities workers. In June, another major outbreak of strikes occurred, as some 200,000 workers in the metal industries walked off their jobs.

Another crisis, in May, almost spelt the end of the Spaak Cabinet. It was caused by a split in the Socialist Party ranks on the old question of state subsidies for Roman Catholic schools. The Premier, anxious to placate his Catholic partners in the Government coalition, had accepted a proposed substantial increase in the subsidies previously paid by the state to the Catholic institutions. When the matter was brought up in the Chamber, however, he found himself disavowed by a majority of his own party comrades. After ten days of bitter wrangling in Parliament, Spaak tendered the resignation of his Cabinet to the Regent on May 5.

No sooner had the Premier's decision to quit become known, than the leaders of both major parties realized they could not do without him. A compromise formula was thrashed out and on May 10 the executive committees of the Socialist and

Christian Social parties called on Spaak to continue. Having refused at first ("I am so tired"), he yielded on May 14 to the insistence of the Regent. The Coalition Government continued in office unchanged.

A new storm blew up unexpectedly in November. When the Minister of Justice Paul Struyce, a member of the Christian Social Party, commuted the death sentences of two Nazi collaborators, the Socialists attacked him fiercely in the Chamber. On November 18 the Minister resigned and the next day the entire Cabinet followed suit. After weeks of wrangling, Spaak once again proved his indispensability. On November 26 he formed a new Coalition Cabinet which was substantially the same as before, except for a new Minister of Justice.

Belgium and the "Western Union." When Britain, France, Belgium, the Netherlands, and Luxembourg decided early in 1948 to pool their resources and means of defense in a close political, economic, and military alliance, their first conference was held at Brussels and the 50-year treaty was signed there on March 17.

By joining the five-power alliance, Belgium evidently abandoned the ill-fated policy of neutrality to which the little country had clung stubbornly for more than a hundred years and which twice had been violated by German aggression.

Although the wording of the treaty mentioned only Germany as a potential aggressor, the circumstances surrounding the Brussels Conference unmistakably pointed to Soviet Russia as the only possible threat to the five nations' security in the near future. Needless to say, the Kremlin did not bestow its blessing on any of the signatories to the pact, yet Belgian-Russian relations do not appear to have suffered much from its signing. At any rate it did not affect a new trade agreement between the two countries which had been negotiated a few weeks earlier.

Meanwhile the economic union of the Low Countries ("Benelux") made further progress during the year. A two-day conference of twenty Cabinet Ministers of Belgium, the Netherlands, and Luxembourg, which was held at Namur, on June 7-8, resulted in agreement to make the economic unification of the three countries fully effective as of Jan. 1, 1950.

Economic Conditions. Belgium, in 1948, was riding a crest of economic prosperity, but this happy state of affairs was not without its worries. While shop windows and counters were loaded to overflow with all sorts of commodities, including luxuries scarcely available elsewhere in Europe, prices remained at such high levels that they made a buyers' strike inevitable. As in America, the so-called law of supply and demand appeared to have lost its validity, at least temporarily. The cost of living was about four times as high as before the war, forcing a large sector of the population to do without everything but the necessities of life.

As a result, and on account of continued currency restrictions in many European countries, Belgium's once flourishing tourist trade was in the doldrums. Except for some Americans, the foreign clientele of Belgium's famous seaside resorts and mediaeval curiosities was conspicuously absent. From Germany and Great Britain, practically no tourists were counted. Visitors from France and the Netherlands were few and far between.

Belgium's export industry was very active but much of its output went to countries unable to make reciprocal deliveries or pay in cash. As a result, Belgium's credit balance was reported to have reached 13,000 million francs in late summer,

causing the Government and business to look with disfavor upon a further unilateral expansion of the export trade.

The problem of Rhine shipping was the object of much controversy during the year. Belgian ship-owners complained that Antwerp's harbor facilities were made idle by the refusal of the Joint Export-Import Agency in Frankfurt am Main to release Rhine traffic for the Low Country ports. Charges were even made of an attempt to play off Rotterdam against Antwerp, contrary to the "Benelux" understanding. In mid-September it was reported that about one-half of Antwerp's waterfront labor force was out of work.

With the end of bread rationing, in October, only sugar was left on the rationing list in Belgium.

JOACHIM JOESTEN

BERMUDA. A British colony in the Atlantic, 677 miles southeast of New York. About 20 of the 360 islands are inhabited. Area: 21 square miles. Population (1946 est.): 34,965 (excluding military personnel). Negroes outnumber whites almost two to one. Capital, Hamilton (pop. 3,000).

Tourists are an important source of income in Bermuda. Chief agricultural products are bananas, potatoes, lily bulbs, and vegetables. Imports include food, clothing, agricultural supplies, and building materials. Trade (1946): imports, £3,612,128; exports, £261,445. Finance: budget estimates for 1948 provide for revenue of £967,170; expenditure of £1,270,870. The 1947 budget showed revenue of approximately £1,454,000; expenditure of £1,358,000.

The colony is administered by a governor, assisted by an executive council and a legislative council, both composed of appointed members, and an elected House of Assembly of 36 members. Governor: Adm. Sir Ralph Leatham (assumed office May 6, 1946).

BHUTAN. A semi-independent state bounded by Tibet on the north and the Dominions of India and Pakistan on the south. Area: 18,000 square miles. Estimated population: 300,000. The people are nominally Buddhists. Rice, maize, millet, lac, wax, different kinds of cloth, and musk are the main products. The ruler of the state is in treaty relations with Great Britain.

BILLIARDS. Willie Hoppe, who began collecting titles in 1906, retained his world's three-cushion crown by defeating Ezequiel Navarra, youthful Argentine champion, 450-376, in a challenge match at Chicago in March. Navarra earned the right to bid for Hoppe's laurels by winning the national tournament in which Irving Crane of Binghamton, N.Y., was runner-up. Willie Mosconi of Kansas City, Mo., easily defended his world's pocket billiard championship, taking all nine games from Andrew Ponzi of Philadelphia for a point score of 1,350-643. Victory in the national tourney enabled Ponzi to challenge for Mosconi's title.

Ed Leo of the New York A.C. triumphed in the amateur three-cushion competition and Rene Vingerhoedt of Belgium won world amateur laurels. John Romano of Brooklyn and Anthony Venuto of Philadelphia took senior and junior honors, respectively, in the United States boys' pocket billiards event. National intercollegiate champions were Gordon Howe, Wisconsin, straight-rail; Sol Ashkenage, Wisconsin, three-cushion; Jack Brown, Utah, pocket; and Jeanne Lynch, Rhode Island State, women's pocket billiards.

—THOMAS V. HANEY

BOBSLEDDING. The Majestic Bobsled Club of Lake Placid, N.Y., won both the North American and national A.A.U. four-man championships on the fast Mount Hovvenberg run at Lake Placid. The team was composed of Stanley Benham, Bill Casey, Jim Atkinson, and William Trombley. A pair of daring riders, Dick Surphlis and Henry Stern from Saranac Lake, took three major amateur titles during the frigid campaign, annexing both the senior and junior two-man laurels in the national competition and the North American two-man award.

American bobsled stars finished first in points in the Olympic Games at St. Moritz, Switzerland. See OLYMPIC GAMES. —THOMAS V. HANEY

BOLIVIA. A republic of South America. About three-fifths of the area is composed of tropical lowlands and the remainder of mountains and plateaus.

Area and Population. Area: 416,040 square miles. Population (1947 est.): 3,854,000, of whom 54 percent were Indians, 32 percent mestizos, and 13 percent of European descent. Chief cities: (1946 pop.): La Paz (seat of government), 302,000; Cochabamba, 76,500; Oruro, 50,000; and Sucre (legal capital), 30,000.

Education and Religion. The Constitution guarantees freedom of worship, but the state recognizes and supports the Roman Catholic Church. Spanish is the official language but large numbers of Indians speak Quechua or Aymara. Measures are being taken to reduce the country's high illiteracy (about 80 percent). There were 3,253 elementary and rural schools with 254,056 pupils in 1944; 55 secondary schools with 17,496 students; and 326 Indian schools with an unknown number of pupils. Five universities, normal schools, and professional schools are also found.

Production. Mining is the chief industry and agriculture the most important occupation. Tin alone accounts for about 80 percent of total exports. In 1946 tin exports amounted to 38,221 metric tons, valued at \$52,001,468. Other mineral exports in 1947 (metric tons) were: lead, 11,280; zinc, 14,640; copper, 6,240; antimony (1946), 6,964; wolfram (1946), 1,273.

Industrial production is centered on consumer goods such as blankets, cement, cigarettes, cotton, wheat, etc. Chief agricultural products include maize, sugar, tobacco, cocoa, cotton, rubber, and quinine. Rubber exports in 1947 amounted to 4,320 metric tons; quinine and cocoa leaves are also exported in small quantities.

Foreign Trade. Latest available foreign trade figures (1946) show exports valued at \$74,000,000; imports, \$51,000,000. Principal buyers, in order of importance, were the United States, Great Britain, Argentina, Brazil, Chile, and Peru. Chief suppliers were the United States, Argentina, Peru, Brazil, and Chile.

Transportation. The country had 1,454 miles of railway and a total of 6,280 miles (all types) of roads in 1947. About 12,000 miles of rivers are open to small-craft navigation. There are 54 commercial and six government operated broadcasting stations.

Finance. In the 1948 budget, revenue and expenditure were balanced at 1,496,911,040 bolivianos (the controlled boliviano equaled U.S. \$0.0236, 1946-48), an increase of 24 million bolivianos from 1947. The public debt (Jan. 1, 1947) totaled 6,054,707,055. At the end of June, 1948, the currency in circulation was 1,782 million bolivianos; bank deposits totaled 1,000 million bolivianos. Gold reserves totaled \$23 million on Aug.

30, 1948. The cost of living index in December, 1947, was 696 (1937 = 100).

Government. Under the Constitution of Oct. 30, 1938 (rev. 1945), Bolivia is a centralized republic of nine departments. Legislative power is vested in a Congress composed of a Senate of 27 members (elected for 6 years) and a Chamber of Deputies composed of 110 representatives (elected for 4 years). The President serves a six-year term and is assisted by a Cabinet of 9 members. On Jan. 15, 1947, Dr. Enrique Hertzog was elected President and assumed office on March 10, for a four-year term.

Events, 1948. Bolivia, which in past years had been torn by internal strife, revolts, and coups d'état, spent a relatively uneventful 1948. The Government of Dr. Enrique Hertzog managed to steer clear of serious political trouble, although the country was affected by the inflation, shortage of foreign exchange and, in general, by the financial difficulties prevalent in the majority of Latin American republics during the postwar period.

Signs of Unrest. A plot to overthrow the Government was discovered toward the end of January, when it was found that ex-Major Raul Tovar and other functionaries connected with the regime of President Gualberto Villarroel (ousted and assassinated during 1946) and members of the M.N.R. party (Movimiento Nacional Revolucionario) were planning an uprising. Documents were found showing plans for the revolt, which was to take place on January 25, a holiday when the troops would be off duty. A provisional government had been planned to take over, with Tovar as Minister of Defense. President Hertzog's Government acted rapidly, declared a state of siege, and made numerous arrests.

Political Confusion. Toward the middle of the year, although no serious disturbances had taken place, the political atmosphere was clouded. Although Hertzog's administration was backed by his Socialist Republican Union Party, it was affected by division among party leaders. This caused a change in the Cabinet, and the appointment of Javier Paz Campero as Minister of Foreign Affairs. The situation was further confused by the return to the country of José Antonio Arce, leader of the P.I.R. (Partido de Izquierda Revolucionaria), a leftist group that has been in the opposition for a number of years.

On their part, the members of the M.N.R. continued their strong propaganda against the government. This group is popular among the peasants and workers of the mining regions, and is backed by Juan Lechin, the most powerful labor leader in the country. Later, President Hertzog tried to form a coalition government and offered three Ministries to the Liberal Party, but the offer was declined.

The President also offered a Cabinet post to the Partido Social Democrático, which was declined, their leader demanding that the Government accept a number of political measures before any coalition was accepted, especially state control over all foreign exchange derived from the exploitation of minerals; reestablishment of the National Education Board; regimentation of the right to strike, and implementation of agrarian reform.

Education and the Congress. An important congressional investigation made on the conditions of public education attracted wide attention. The investigating committee reached the conclusion that (1) national education is in complete decadence; that (2) there is no scientific education program; that (3) the teachers function as a state bureaucracy, and that their promotions are made not on the basis

of academic merit, but subject to political pressure.

The overall picture of conditions showed more than 80 percent of illiteracy; schoolhouses owned by private individuals who usually collect excessively high rent from the Government, and 72 percent of the teachers not having the necessary qualifications. This investigation was interpreted as a blow to President Hertzog's administration which had always claimed that it was deeply interested in an improvement of the educational system.

International Front. The signing of the economic agreement with Argentina (see ARGENTINA, *Events*, 1948) was counterbalanced by an important meeting between President Hertzog and President Dutra of Brazil. During the past two years, one of the noticeable trends in South America has been the inclusion of Bolivia within the Argentine sphere of influence.

The Hertzog-Dutra meeting was interpreted as a Bolivian effort toward the reestablishment of balance of power in the La Plata region. They met on August 22 in the Bolivian city of Robore, for the inauguration of a railroad linking Bolivia with the Brazilian port of Santos, which will allow the landlocked country an outlet to the Atlantic.

Bolivia took part in the Ninth Inter-American Conference of American States at Bogotá, Colombia, and became signatory of the Charter of American States (see PAN AMERICAN ACTIVITIES).

—MICHAEL JORDAN

BONIN ISLANDS. An archipelago of 15 islands in the western Pacific, about 550 miles south of Tokyo, Japan. The chief islands are Chichi (10 sq. mi.), Haha, Ani, Ototo, Mei, Yome, Muko, and Nakadachi. Total area: 40 square miles. Population: 6,000 in 1940. Capital: Omura (on Chichi). The principal agricultural crops are sugarcane, pineapples, and bananas. The Bonins passed to the control of United States forces following the surrender of Japan to the Allied nations in 1945.

BOTANY. In the centenary program of the American Association for the Advancement of Science, in Washington, several botanists discussed various aspects of forest and crop resources in relation to world needs. This topic, recently popularized in such books as Osborne's *Plundered Planet* and Vogt's *Road to Survival*, also forms the subject of the latest issue of *Chronica Botanica*, entitled "Freedom from Want," in which several authorities survey crop and animal production, resources of fertilizers, and growth of population.

Even in this year of high costs several new botanical periodicals appeared. *Physiologia Plantarum*, published in Lund, is the organ of the Scandinavian Society for Plant Physiology. Three numbers have appeared, containing articles from Copenhagen, Stockholm, Uppsala, Lund, and Helsinki—all written in English. *Vegetatio*, subtitled *Acta Geobotanica*, published in The Hague, is devoted to plant sociology, ecology and geography. The first issue contains papers by Swiss, Dutch, and Spanish botanists and one from Palestine. The subject of *Hydrobiologia*, also published in The Hague, is evident from the title. Its first issue included papers on aquatic organisms from the United States, South Africa, Spain, Holland, and central Europe. Such publications manifest a growing internationality in plant science.

Dr. William Crocker is the author of a book entitled *Growth of Plants*, presenting the results of "twenty years' research at the Boyce Thompson Institute," of which he has been director since its

foundation. This is an interesting record of contributions to many fields of applied botany: virus diseases, longevity and dormancy of seeds, effects of ethylene and other gases, plant hormones, fungicides and insecticides, and others.

Harvard University has published, under the title *Orchids in Retrospect*, a collection of the writings of Oakes Ames, in honor of the golden anniversary of this distinguished student and teacher.

Taxonomy and Floristics. A conference was held in Utrecht to consider proposals for changes in the International Rules of Botanical Nomenclature, which will be acted upon at the International Botanical Congress in 1950. Representatives attended from Holland, Great Britain, the United States, Sweden, Belgium, France, Switzerland, Australia, and India.

In a study of certain Liliaceae, sporogenesis and other morphological features were used to test relationship, emphasizing anew the growing co-operation of taxonomy with other disciplines. Chromosomes were widely used in taxonomic studies. One on grasses reported 115 species in 19 genera and revealed two more species of the increasing number which have chromosomal variation not manifested by external character. In another study it was shown that two species of *Achillea*, tetra- and hexaploid, cannot be separated by external features, but the former is true *Achillea*, the latter Pacific in range. Chromosome studies in Loganiaceae reinforce the taxonomic conclusion that the group is artificial. Chromosome numbers were correlated with growth habit in weeds, and it was shown that polyploidy is unimportant in determining the weed habit, the annual habit making for their success. A Swedish study showed that annual species are mostly diploid, apomictic perennials mostly polyploid. The variable species *Valeriana officinalis* was studied in England. It was found that, aside from considerable variability which can be ascribed to the environment, much of the variation in this species is to be traced to genetic differences which are propagated, in numerous combinations, through interbreeding; and formal systematic attempts to classify such variation in a small number of subspecific groups must fail. To this must be added polyploidy, the different polyploid groups not being always distinguishable morphologically, but occupying different ranges and being intersterile.

A study of freshwater red algae showed their distribution to be related to soil types. The periodicity of their forms renders it difficult to know the entire life cycle of any species. Two Brazilian seaweeds have proven promising as a source of agar, hitherto obtained chiefly from Japanese algae. A guide was published to marine algae of the Pacific Coast.

The genus *Crepis* has been extensively studied for many years, cytology and genetics being used to clarify systematics in a striking way. The results have been summarized in a University of California publication; Part 1 appeared in 1947, Part 2 recently; the latter deals with systematic aspects.

The results were published of an exploratory trip to the Kaieteur Plateau and Table Mountain (British Guiana and Surinam). Works appeared on Louisiana trees and shrubs, on grasses of Pennsylvania, on grasses of Pacific Islands, on Umbelliferae in Argentina, on *Cinchona* (quinine) in Ecuador, on the vegetation of Angola; and a second part (Geraniaceae—Compositae) appeared of Pittier's catalogue of the Venezuelan flora.

Ecology. Very varied surveys were made of different types of vegetation; e.g., the bogs and

swamps of White Russia, a soil reconnaissance through Tanganyika. A sublittoral seaweed survey was made in Scottish waters. The yield was estimated at 45,000 tons from 3,050 acres; the density of population is not directly proportional to depth. It was shown that colonization by marine algae at Monterey, California, depends on the mode of reproduction. The yield of natural herbage was studied under controlled grazing in Wales. Grazed plots yielded twice as much crude protein as plots in hay. Lime was found efficient in increasing not only minerals but also starch and protein yield.

Cytology and Genetics. Investigation continued of polyploid conditions resulting from treatment with colchicine. In Belgium tetraploid beets were obtained, "not of immediate agricultural interest" because of lowered fertility and increased susceptibility to parasites with little gain in sugar content. In Sweden tetraploid and diploid plants of *Sinapis alba* (a mustard) were grown side by side, which reduced the yield of the tetraploid plants by the production of abortive triploid embryos though open pollination. Doubling the chromosome number in *Hieracium hircanum* resulted in the occurrence of reduction divisions in the somatic tissues of the ovule—a process often postulated but rarely demonstrated. A fern hybrid (*Woodsia*), usually sterile, was of interest in that the terminal part of the frond became fertile. Since the growth of a fern frond continues through a long period by means of its apical cell, this suggests some doubling of chromosomes in the latter during the growth of the leaf.

Much study has been given to "biochemical mutants" of *Neurospora*—new races of this fungus recognizable only by their need for certain nutrients. Reversion of these mutants has been obtained by treatment with ultra-violet and X-rays, and nitrogen mustard gas.

Morphology. The electron microscope was introduced into morphology in a study of the chloroplast of spinach. Magnifications up to 48,000 times were used. Each chloroplast contains 40–60 "grana" embedded in a "stroma." The grana are wafer-like, dense, uniform in one chloroplast, low in protein.

Further study of shoot apices in dicotyledons resulted in an attempt to define the meristematic zones "dynamically." It was made clear that "tunica" and "corpus" are not histogens, since they may fluctuate in one species during the season and during the cycle of development. In an English study it was shown that vegetative and reproductive apices do not differ essentially in organization.

The old question of the nature of flower parts—whether leaves or stem—was attacked by a study of perianth formation in *Vinca*. The corolla tube was shown to be of two parts, the upper composed of separate parts ("appendicular") which fuse at the margins during development. In a study of flowers of Passifloraceae, it was concluded that sepals and petals are leaves, stamens also derived from a foliar ancestor, in contrast to their origin from branches as suggested by other recent workers. A similar conclusion was reached by a Czech botanist working on *Cyclamen*.

An English botanist reported on marine diatoms in cultivation. They lost their shells ("frustules") and gradually also their shape and power of motion. In such a condition they survived 9 months, the normal condition being regained by immersion in seawater.

Fertilization of species-crosses in *Datura* sometimes failed even when shortness of style was not a factor. In such crosses fertilization actually oc-

curred and the zygote might divide but often did not. The endosperm divided, but ultimately disintegrated. The evidence suggests a breakdown of chemical regulatory mechanism or of nutrition.

Mycology and Plant Pathology. A method first used in bacteriology has been adapted to mycology with considerable success; this is the maintenance of cultures under a layer of mineral oil. The oil prevents dehydration, excludes mites, and slows metabolism. A wide range of fungi have been tested for periods up to 24 months. *Blakeslea trispora*, which must usually be transferred every few weeks, survived under oil for 10 months.

A number of fungi were successfully grown on asphalt-treated paper, showing that such materials, when used for wrapping, cannot be assumed to have a preservative effect.

Several papers appeared on the use of antibiotics as a "cure" for plant diseases, particularly of crown gall. One of these substances was derived from a species of *Streptomyces*, from a species of which we obtain the well-known streptomycin.

Cytological study was made of the bird's-nest fungus *Cyathus stercoreus*. Haploid mycelia were grown from single spores and diploid mycelia which formed fruit-bodies were obtained by pairing these mycelia. In some pairings the doubling of nuclei proceeded in only one direction—one mycelium becoming diploid, the other remaining haploid. Fruit-bodies of several different types were obtained, some scarcely recognizable as belonging to the species. These findings are important in the general problem of classification of fungi, in which data on hybridization and variation have been lacking.

In the meetings of the A.A.A.S. in Chicago a group of papers was presented on breeding in relation to disease resistance; various diseases were discussed in tomatoes, barley, rice, potatoes, cabbage, and peas.

Continued work on virus with the electron microscope disclosed an increase of "short particles" of tobacco mosaic virus during virus multiplication. Squash mosaic virus contained spherical particles with a tendency to aggregate.

Plant Physiology. In the meeting of the A.A.A.S. in the last days of 1947 photosynthesis was discussed in several programs by a combination of chemists and botanists. Topics included photochemical studies of chlorophyll and quantum efficiencies in photosynthesis. Another symposium echoed the modern interest in atomic physics, being concerned with the uses of radioactive isotopes in research.

Many studies were devoted to vitamins. It was shown that the concentration of niacin, thiamine, and riboflavin decreases during the development of the fruit of certain cucurbits. Different varieties differ in vitamin content, and there are local differences within one fruit. In walnuts likewise, the maximum vitamin concentration is found in the immature nut; very little is present in the mature fruit. In tomatoes the highest concentration is found in immature leaves and stem; mature leaves have more than the ripe fruit. Synthesis of riboflavin and thiamine evidently occurs in the leaves.

In peas there are significant differences in vitamin content of different varieties, and this varies with the size of the pea. Synthesis of thiamine and riboflavin has been shown to be correlated with light intensity (as was already known to be true of ascorbic acid). It was shown that some of the elements necessary in minute amounts for plant growth affect the amount of vitamins in turnips and tomatoes.

Work was continued on various phases of tissue culture. When sunflower tumor tissue is grafted to normal stem, induced tumors are formed at the point of union; the hypothesis was developed that these consist of both normal and tumor tissue, the invasion of the latter being likened to that of animal cancer. It was shown that a growth-promoting substance diffuses from the tumor tissue into the stem, but not into agar; it has not been identified. The initiation of roots was studied in excised asparagus tips grown in vitro. A material other than auxin is involved; it is formed in the light and stored in the seed. Excised oat coleoptiles were used in a study of growth. The rate of growth diminished with the age of the culture; also the sensitivity to inhibiting agents. It was concluded that an enzyme is involved which decreases in concentration with the age of the culture. Oat coleoptiles were used also in a study of water intake. This function was inhibited and stimulated by substances which affect carbohydrate metabolism in the same way; it was concluded that water intake depends on an internal source of energy, and is not to be explained entirely by physical processes.

A substance which inhibits growth of tomato plants and may cause their death was discovered in the desert plant *Encelia farinosa*. The search for antibiotics continued, including a search among soil fungi for inhibitors of viruses, which it is hoped may be of importance in the control of human diseases. —HAROLD WILLIAM RICKETT

BOWLING. Although the American Bowling Congress tourney, blue-ribbon classic of the alleys, drew a record entry of more than 27,000 contestants during its 80-day run in Detroit, Mich., the championships failed to produce a new mark, the general run of scores being the lowest in history.

The all-events prize of \$1,000 went to New Day of West Allis, Wis., with a total of 1,979, and the 721 turned in by Lincoln Protich of Akron, Ohio, was good enough for the singles award. James Towns and William Sweeney of Chicago, Ill., rolled 1,361 for the doubles title, while the Washington Shirts of Chicago bowled 3,007—lowest winning score in the last 26 years—to capture five-man team honors.

Virgie Hupfer of Burlington, Iowa, carried off all-events laurels at the Women's International Bowling Congress championships, the singles title being annexed by Shirlee Wernecke of Chicago. Margaret Cass of Alhambra, Calif., and Merle Mathews of Long Beach, Calif., took the doubles award and the Kathryn Creme Pact keggers of Chicago were tops in the team competition.

—THOMAS V. HANEY

BOXING. Despite the production of 13 title bouts, boxing suffered a definite recession, with fewer licensed fighters and a general falling-off in attendance, a factor some promoters attributed to television. Four of the eight world championships changed hands and 1948 closed with three titles held by men from outside the United States for the first time in the modern history of the sport of boxing.

Big battle of the year was the return meeting between Joe Louis and Jersey Joe Walcott in the Yankee Stadium in June. Only the power of Joe Louis' punches, coming in the eleventh round to knock out the challenger, saved this bout from turning into the fiasco of their initial meeting. Following this twenty-fifth defense of his heavyweight crown, Louis announced that he would retire, but

later stated he would make "one more" defense if a suitable challenger could be found.

New champions were crowned in the light heavyweight, middleweight, featherweight, and flyweight divisions. Among the 175-pounders, Freddie Mills, considered only a mediocre English boxer, scored one of 1948's surprises by dethroning Gus Lesnevich, New Jerseyite, on a referee's decision in London in July. Earlier in the year, Lesnevich had registered a one-round knockout of Billy Fox, challenger.

The middleweight honors fell to a competent invader, one Marcel Cerdan from Casablanca. The Frenchman took the title from Tony Zale at Jersey City with a methodical attack that tired the champion so badly Zale was unable to go beyond the eleventh round. Zale previously had regained the title with a knockout of Rocky Graziano at Newark.

Sandy Saddler of New York figured in one of the major upsets by ending the six-year featherweight reign of Willie Pep with a stunning knockout in four rounds at Madison Square Garden in October. Among the flyweights, Rinty Monaghan of Belfast dethroned Jackie Paterson of Scotland in seven rounds at Belfast. Ike Williams of Trenton, N.J., was the busiest of all the champions, defending his lightweight crown three times, outpointing Enrique Bolanos and stopping Beau Jack and Jesse Flores. Williams was voted the Eddie Neil Memorial Award as the boxer of the year.

Sugar Robinson of New York, welterweight king, outpointed Bernard Docusen in Chicago in ten rounds, and Manuel Ortiz of California knocked out Memo Valero in the only defense of his bantamweight crown.

National Amateur Athletic Union champions were Frank Sodano, Philadelphia, 112; Bill Morgan, Newark, N.J., 118; Teddy Pittipaldo, Warren, Ohio, 126; Johnny Gousaves, Oakland, Cal., 135; Eugene Linscott, Grand Rapids, Mich., 147; Ray Bryan, New York City, 160; Grant Butcher, San Francisco, 175; Coley Wallace, New York City, heavyweight; New York City, team.

National Collegiate Athletic Association title winners were Ernie Charboneau, Michigan State, flyweight; Steven Gremban, Wisconsin, bantamweight; Doug Ellwood, Louisiana State, featherweight; Charles Davey, Michigan State, lightweight; Don Dickinson, Wisconsin, welterweight; Herb Carlson, Idaho, middleweight; Carl Vernon, Wisconsin, light heavyweight; Vito Parisi, Wisconsin, heavyweight; Wisconsin, team. See OLYMPIC GAMES.

—THOMAS V. HANEY

BRAZIL. A federal republic in South America, and the largest of the Latin American countries. More than one-half of the vast surfaces is a plateau. The Amazon lowlands and a small part of the La Plata lowlands occupy more than two-fifths of the surface. Wet tropical climate prevails throughout the Amazon lowlands. Tropical and subtropical climates extend over most of the plateau region, while the southeast is temperate.

Area and Population. Area: 3,286,170 square miles. Population (1947 est.): 47,550,000, of whom about 60 percent is of European origin, 30 mixed, 8 Negro, and 2 Indian. The population is largely concentrated in the coastal regions. Chief cities: Rio de Janeiro (capital), 2,070,662 inhabitants in 1945; São Paulo, 1,750,000; Recife, 500,000; Salvador, and Porto Alegre.

Education and Religion. The Constitution of 1946 guarantees freedom of worship and prohibits the support of any religion. The predominant religion is Roman Catholicism. An intensive adult literacy

campaign is reducing the high illiteracy of the population (50 percent at last census). Latest statistics report 43,975 elementary schools with 3,340,952 pupils; 6,032 secondary schools with 494,563 students. Higher education is provided by four universities, seven polytechnic schools, and a number of professional schools.

Production. Brazil is a predominantly agricultural country, although it is gradually becoming industrialized. The total cultivated area covers about 17,387,000 acres, of which 4,133,000 are devoted to coffee. Estimates place the 1947-48 crop at 16,687,000 bags (of 60 kilos). Under the Marshall Plan Brazil plans to ship some 4 million bags of coffee to Europe. Other important crops (in metric tons) in 1947 were: rice, 2,771,000; wheat, 287,018 (1948 est., 500,000); sugar, 20,370,471 bags; cacao, 1,150,000 bags; tobacco, 101,771; cotton, 287,000. Brazil also produces beans, maize, mandiocca, tea, fruits, and oranges (30 million boxes in 1947).

Brazil ranks fourth among the cattle raising nations of the world with about 44 million head of cattle. Vegetable production is important to the country's economy and includes nuts, babasu, carnauba wax, carao fiber, rubber (32,936 metric tons in 1947).

Mineral resources of the country include gold, gems, industrial diamonds, quartz crystals, ores, and coal of a poor quality. Production of pig iron in 1946 (metric tons) was: 369,254; steel, 343,650; sheet iron, 231,848; oil, 66,697 barrels; coal, 1,944,000 (1947). Manganese, mica, lead, zinc, nickel, chromium, and copper are also mined.

Foreign Trade. Total exports were valued at 21,179,413,000 cruzeiros in 1947; imports at 22,789,291,000 cruzeiros. The United States took 42 percent of the exports and supplied 61 percent of all imports. Trade figures for the first six months of 1948 place imports at 12,058,000,000 cruzeiros; exports at 6,141,000,000. Chief export items in 1947 were: coffee, 14,830,064 bags (of 60 kilos) of which 9,755,000 bags went to the United States; cacao, 130,460 metric tons valued at 651 million cruzeiros (1946); hides and skins, 75,228 metric tons valued at 1,002,697,000 cruzeiros. The most favorable foreign trade was with Spain, followed by Holland and Argentina; least favorable was with the United States and the Netherlands East Indies.

Transportation. Brazil had 21,866 miles of single track railway in operation in 1946; 160,500 miles of roads; 40 miles of navigable inland waterways. The merchant marine is one of the most important in Latin America, with a tonnage of over 500,000. There is an important system of national airlines and the country is connected with Europe, Africa, and the rest of America by the principal international companies.

Finance. Budget estimates (1949) place revenue at 17,451,150,000 cruzeiros; expenditures at 17,440,130,500 cruzeiros. The 1948 approved budget placed revenue at 14,597,320,000 cruzeiros; expenditure at 14,596,041,000. The outstanding balance of the consolidated internal debt of the Federal Government was 10,133,845,000 cruzeiros on Dec. 31, 1947. The external debt on Jan. 1, 1947, was as follows: £74,104,000; \$111,733,000; paper francs, 520,000,000 and gold francs, 229,186,000. Currency in circulation in December 1947 amounted to 17,240,000,000 cruzeiros and bank deposits to 26,980,000,000. Gold exchange holdings show a decline of 7 percent in comparison with the previous year. Brazil has established control over imports and exchange. The cost of living

index at the end of 1947 was at 284 (1937=100).

Government. Brazil is a federal union, divided into states, territories and a Federal District. Legislative power is vested in the Federal Senate and the Chamber of Deputies. Executive power is vested in a President, elected for a five-year term, and a Cabinet of Ministers that must report to the Congress on request. On Dec. 2, 1945, General Eurico Gaspar Dutra was elected President and took office Jan. 31, 1946.

Events, 1948. Brazilian politics during the year, as in Chile, were mostly concerned with legislative measures aimed at the control of Communist Party activities. Economic life of the country was seriously affected by the unfavorable balance of trade, and the purpose of the government was the development of industry and the increase of production.

Anti-Communist Legislation. President Dutra's campaign against the Communist Party came to a head on January 7, when the Chamber passed a law canceling the credentials of all Communists who had been elected to public office. The session of Congress at which this took place was a violent one, with sixty deputies besides the fourteen Communists voting against the measure. The non-Communists claimed that the law was unconstitutional and a violation of the democratic system.

The government maintained that Communists received instructions from a foreign power, while the Communists replied that Dutra's administration was following instructions from the United States. During the sessions, pistols were flourished, though none were actually fired. Following the enactment of the law, the government ordered *Tribuna*, the Communist paper, to be shut down. When the police carried out the order, they used submachine guns and tear gas, resulting in some being seriously injured. Many arrests were made.

Senator Luis Carlos Prestes, head of the Communist Party, strongly opposed these steps, and since he could not appear in Congress himself, had a manifesto read by Deputy Pedro Narnar, who in spite of being a Communist, had been elected by the Socialist-Progressive Party, and his credentials not canceled. Further criticism of the government policy was made by Senator Villasboas and Deputy Mangabeira. In a speech, the Senator attacked the censorship of the press and the violation of freedom of assembly. Mangabeira stated that the labor unions had been deprived of their liberty and had become dependencies of the Department of Labor.

Economic Measures. In February, President Dutra signed a decree establishing strict control over imports and exports. This was followed by the presentation of a bill to Congress, by which foreign investments in oil companies may be increased. This bill allows foreigners and naturalized citizens to own 40 percent of the stock in companies organized by native Brazilians, for exploitation of oil and its derivatives. The government stressed the importance of safeguarding oil reserves in the country, and giving priority to the home market. The members of the Petroleum Board were of the opinion that the new legislation would represent an important step forward in the development of the petroleum industry, and that North American firms would understand the need for the change.

Financial Crisis and Planning. In May, the President sent a message to Congress asking for a five-year plan for national development concentrated in the fields of health, food, transport, and power. This plan, called the "Salte" from the initials of its four main fields (*saúde, alimentos, transporte* and

energia) is aimed at modernization of Brazil's economy. Finances for the plan were to come from normal government income, subscriptions and perhaps foreign loans. Approximate estimates of the cost were over \$860,000,000.

The administration was seriously concerned over the unfavorable balance of trade. In the middle of the year, trade figures for the first five months showed that the country was losing an average of nearly \$10,000,000 a month, and that the total unfavorable balance of trade for the period was \$48,700,000. The government took energetic steps to stop this condition by enacting a law on May 7, designed to prevent excessive Brazilian buying in foreign countries, especially the United States.

International Front. A significant event in the international relations of Brazil was the visit of Uruguay's President Luis Batlle Berres to President Dutra. The result of the visit was the signature of important agreements to foster commercial and cultural relations between the two countries. This was additional evidence that the states of La Plata are trying to counterbalance Argentina's influence with Brazilian support, just as Bolivia has done.

Brazil continued her traditional policy of friendship with the Holy See, and had the opportunity to prove it in connection with the religious schism caused by the foundation of an independent Catholic Church by Bishop Carlos Duarte. Dutra's administration prohibited the ceremonies of the new church, and Bishop Duarte appealed to the Supreme Court on the grounds of constitutional violation, as the Brazilian Constitution guarantees freedom of worship.

Brazil took active part in the Inter-American Conference of Commerce and Production at Chicago in September, and adopted the role of mediator and harmonizer of opposing inter-American views. The resolution approved concerning the economic role to be played by Latin America in connection with the Marshall Plan and ECA was essentially what had been offered by Brazilian delegates. The nation took an active part in the Ninth Inter-American Conference of American States held at Bogotá in April (see PAN AMERICAN ACTIVITIES), and became signatory of the Charter of the Americas.

—MIGUEL JONRIN

BRETHREN, Church of the. German pietists who under the leadership of Peter Becker settled in Germantown, Pa., in 1719. This, the oldest and largest of the four denominations of Dunkers, has 1,018 churches, 775 pastors, 2,410 ministers, and 184,584 members in the United States. The church maintains 7 educational institutions with 2,452 students and its Sunday and Bible schools were attended by 120,224 persons. Foreign missionaries serve 11,822 members of mission churches; there are also 68 relief workers in the field. Income from contributions for the fiscal year 1947 was \$3,171,443. Headquarters, 22 South State St., Elgin, Ill.

BRIDGES. No record-setting bridge has been constructed for about five years. The Sando bridge, which has the world record concrete arch span of 866 ft., was completed in Sweden in 1943. A record-breaking continuous truss span of 845 ft. was completed over the Mississippi River at Dubuque in 1943. Bridge construction is still impeded by shortages of material and skilled labor.

In the United States many State highway departments were forced to curtail their bridge construction programs due to a shortage of qualified engineers. Construction costs are almost twice those of the prewar years, resulting in the postponement of

many projects. The Ohio River bridge at Cairo, Illinois, was made toll free in November. The Kentucky State Highway Department now has only one toll bridge on its system.

A number of underpass and overpass structures have been built in connection with the construction of express highways in several of the larger cities—Houston and Fort Worth, Texas, for instance. The American Institute of Steel Construction awarded stainless steel plaques to the nine steel bridges selected as the most beautiful built in their respective classes during the years 1942 to 1947. This annual event had been interrupted by the war.

Structures now in the planning stage include a \$14 million suspension bridge across the Hudson River at Kingston Point with a main span of 1,700 ft. This is the same span as that of the famous Firth of Forth bridge in Scotland, which is the present longest span outside of North America. The Virginia State Highway Department is planning a \$20 million bridge across the Rappahannock River near Greys Point and a double swing span over the York River between Yorktown and Gloucester Point.

In the city of Toledo, Ohio, there is being planned a \$5.2 million deck cantilever truss over the Maumee River. Washington and Oregon State Highway officials have authorized a survey to determine the feasibility of a toll bridge across the Columbia River at The Dalles. The North Carolina State Highway Department has awarded a contract for the construction of a 1,360 ft. bridge across the French Broad River at Asheville.

In Pennsylvania the Pennsylvania Turnpike Commission is planning a \$4 million bridge to carry the new eastern extension of the turnpike across the Susquehanna River. Preliminary studies are being made by the Indiana Toll Bridge Commission for a \$3 million structure across the Wabash River at Mt. Vernon. The Delaware River Joint Commission is studying the possibilities of the construction of a new bridge linking South Philadelphia with New Jersey. Construction of a floating bridge across Fletcher Bay west of Seattle was under consideration by the Washington State Toll Bridge Authority.

It is planned to strengthen and increase the traffic capacity of the Brooklyn suspension bridge. This famous structure had its 65th anniversary in May, 1948. The number of traffic lanes will be increased from 2 to 6, which will increase the traffic carrying capacity from 20,000 cars per day to 6,000 cars per hour.

It is also proposed to widen the suspension bridge across the Delaware River between Philadelphia and Camden, which will increase its traffic carrying capacity 37 percent. The estimate of cost, which also includes a mercury-vapor lighting system, is \$3 million. Further studies have been made throughout the year on the proposed \$155 million structure across the San Francisco Bay paralleling the existing bridge. The U.S. Navy has opposed the twin bridge idea and the final outcome cannot be determined at present. A public hearing will be held in January, 1949, concerning a bridge across the Narrows between Staten Island and Brooklyn, where a main suspension span of 4,621 ft. is proposed.

Progress has been made toward the completion of the new highway bridge over the Mississippi River at Memphis. The substructure is complete and about 25 percent of the steel in the main spans has been erected; contract price is \$4,605,885. The approach work is nearing completion. The sub-

structure for the new crossing of the Mississippi River in St. Louis, just above the Eads bridge, is under construction; the superstructure steel is now being fabricated. The Tennessee Valley Authority completed a 1,092 ft. three-span continuous deck truss across the Watauga River in Eastern Tennessee, with one pier almost 215 ft. high. The Mississippi State Highway Department has under construction a \$1,587,000 bridge over the Yazoo River above Vicksburg. Contracts have been awarded by the Delaware State Highway Commission for the construction of a \$40 million Delaware Memorial Bridge near Wilmington. The Harvard Street Bridge in Peoria, Illinois, is almost complete. Bids have been received for a \$2,500,000 bridge across the Kennebec River at Augusta, Maine. The State Street bascule bridge over the Chicago River in Chicago will be completed early in 1949.

The Charles W. Cullen Bridge over Indian River Inlet at Bethany Beach, Delaware, collapsed Feb. 10, 1948, causing the death of 3 persons. This structure was built in 1938 and the portion which collapsed failed under an unusual combination of ice, wind, and tide. Statistics maintained by the Ohio State Highway Department indicates that bridges are failing on their system at the rate of 2 a month due to various causes. This condition is also true in most all States. The bridges which fail are usually old structures of inadequate design.

Most State Highway Departments are faced with the dilemma of modernizing their bridges in the face of rising construction costs and a shortage of qualified engineers. Many of the structures on the State highway systems are substandard both in strength and roadway width.

Foreign Bridges. The Germans are building a record breaking girder span of 605 ft. at Cologne. The world's first aluminum-alloy double leaf bascule bridge was put in operation over the River Wear at Sunderland, England, in November. In Canada the first highway arch bridge in the world of aluminum-alloys was under construction over the Saguenay River at Arvida, Quebec. In England plans for the longest span bridge in Europe were approved. It will be over the mouth of the Severn River near Bristol with a 3,300 ft. main span, exceeded only by the 4,200 ft. Golden Gate Bridge and the 3,500 ft. George Washington Bridge.

In Iraq, the first railway bridge over the Tigris River is planned near Bagdad to give direct access from Basra to Kirkuk. Australia is catching up on bridge construction deferred due to the war. Three major structures will span tidal waters in New South Wales, one is planned over the Clyde River at Bateman's Bay, a double leaf bascule over Lake Macquaire, and one at Iron Cove in Sydney Harbor. A contract in the amount of \$1,777,500 was awarded for the construction of a suspension bridge across the Lempa River in San Salvador.

In Canada, a \$750,000 suspension bridge is proposed at Trail, B.C., over the Columbia River. A board of engineers has been appointed to study the feasibility of a crossing at the Strait of Canso between the Nova Scotia mainland and Cape Breton Island.

—JOHN M. HAYES

BRITISH COLUMBIA. The third largest and most westerly province of Canada. Area, 366,255 square miles (including 6,976 sq. mi. of fresh water). Population (1941 census): 817,861; (1948 estimate) 1,082,000. Leading religious denominations (1941) were: Anglican, 245,531; United Church, 200,817; Roman Catholic, 113,282; and Presbyterian, 94,300. In 1946 there were 22,609 live

births, 10,137 deaths, and 11,762 marriages. Education (1945-46): 197,141 students were enrolled in schools and colleges. Chief cities (with 1941 census figures): Victoria (the capital) 44,068 inhabitants, Vancouver 273,353, New Westminster 21,967, Trail 9,392, North Vancouver 8,914, Prince Rupert 6,714, Nanaimo 6,635.

Production. The gross value of agricultural production for 1947 was \$99,550,000, of which the value of field crops (from 627,000 acres) in 1947 was \$30,488,000. Chief field crops (1947): wheat 2,966,000 bu. (\$4,241,000), oats 3,915,000 bu. (\$2,936,000), potatoes 2,138,000 cwt. (\$5,944,000). Livestock (June 1, 1947): 358,700 cattle (\$27,935,000), 53,300 horses (\$5,237,000), 76,600 swine (\$1,893,000), 105,900 sheep (\$1,309,000), 4,910,400 poultry (\$5,753,000). There were 313 fur farms in 1946 with fur animals estimated at \$1,184,776. Value of fur pelt production (1946-47) was \$2,047,135. The marketed value of fisheries amounted to \$43,817,147, of which the salmon pack, which totaled 1,348,347 cases of 48 lb., accounted for \$17,532,462 or 40 percent of the total.

There were 4,436,000 lb. of creamery butter produced in 1947 valued at \$2,387,000. The estimated total farm value of poultry meat and eggs was \$16,640,000 in 1947. Fruit production for 1947 was valued at \$23,790,000. British Columbia, which had 858 sawmills in operation, ranked first in the total Canadian production of sawn lumber and contributed 42 percent of the total for 1946; Douglas fir, which is sawn almost entirely in British Columbia, was valued at \$48,637,005. Mineral production (1947) included gold valued at \$8,715,385; coal, \$8,630,285; others, \$99,426,951.

In 1946 there were 2,731 manufacturing establishments with a combined output of \$644,527,898; employment was furnished to 75,484 persons who were paid \$137,506,645 in salaries and wages; the cost of materials used amounted to \$335,708,533. The sawmilling industry occupied first place in 1946, followed by fish curing and packing, pulp and paper, shipbuilding, slaughtering and meat-packing.

Finance. Budget estimates for 1947-48 placed revenue at \$58,888,930; expenditure, \$58,781,335. Preliminary budget estimates for 1948-49 placed revenue at \$77,616,810 and expenditure at \$77,442,369.

Government. The executive power is vested in a lieutenant governor who is advised by a ministry of the Legislative Assembly, the latter consisting of 48 members elected for a five-year term by adult suffrage. Six senators (appointed for life) and 16 elected commoners represent British Columbia in the Dominion Parliament at Ottawa. Lieutenant Governor, Col. Charles A. Banks (app. Oct. 1, 1946); Premier, Byron Ingemar Johnson (Liberal; app. Dec. 29, 1947). See CANADA.

BRITISH COMMONWEALTH AND EMPIRE. The component parts of the British Commonwealth and Empire, as of Dec. 31, 1948, are listed in the accompanying table (see *EMPIRE* under *Events*, 1948):

I SOVEREIGN STATES AND THEIR DEPENDENCIES

Country	Land area sq. miles	Population estimates
United Kingdom of Great Britain and Northern Ireland	94,291	50,015,000
(Dependencies listed in Parts II, III, and IV)		
Canada	3,486,882	12,582,000
Australia (Commonwealth of)	2,977,600	7,580,800
Australian Antarctic Territory		
Norfolk Island-Colony	14	800

I SOVEREIGN STATES AND THEIR DEPENDENCIES

Country	Land area sq. miles	Population estimates
Papua—Colony	90,540	300,000
New Guinea—Trusteeship	91,000	688,400
Nauru—Trusteeship with New Zealand and United Kingdom	8	2,700
New Zealand	103,935	1,802,640
Possessions administered by N.Z.		
Tokelau Islands—U.K.	4	1,380
Wallis and Futuna—Trusteeship	1,150	66,450
South Africa—Trusteeship	472,650	11,391,950
South West Africa—Mandate	317,725	341,000
Eire	26,950	2,953,450
India (Approx)	628,808	231,400,000 ^a
Pakistan (Approx)	236,638	60,000,000
Ceylon	25,000	6,060,000
Southern Rhodesia—A self-governing Colony whose external affairs are controlled by the U.K.	150,333	1,764,000

^a Excluding Indian States.

II TERRITORIES ADMINISTERED THROUGH THE COMMONWEALTH RELATIONS OFFICE

Country	Form of government	Land area sq. miles	Population estimates
Newfoundland		42,000	315,570
Labrador	Dependency of Newfoundland	112,000	5,530
High Commission Territories			
Basutoland	Colony	11,716	556,390
Bechuanaland	Protectorate	275,000	265,760
Swaziland	Protectorate	6,704	185,210

^b Newfoundland formerly had "Dominion Status," which was suspended at her own request in 1933. Government thereafter was by a Commission. By referendum in July, 1948, Newfoundland (with Labrador) voted to become a Province of Canada.

III BRITISH DEPENDENT TERRITORIES ADMINISTERED THROUGH THE COLONIAL OFFICE

Region and Territory	Form of government	Land area sq. miles	Population estimates
East Africa			
Kenya	Colony ^c and Protectorate	219,730	4,053,280
Tanganyika	Trusteeship	342,706	5,490,680
Uganda	Protectorate	80,292	3,997,690
Somaland (British)	Protectorate	68,000	700,000
Zanzibar and Pemba	Protectorate	1,020	250,000
Central Africa			
Northern Rhodesia	Protectorate	287,610	1,658,810
Northern Nigeria	Protectorate	37,696	2,230,900
West Africa			
Gambia (British)	Trusteeship	34,081	800,000
Gambia	Colony ^c and Protectorate	4,132	249,270
Gold Coast	Colony ^c and Protectorate	78,802	3,571,000
Nigeria	Colony ^c and Protectorate	338,593	21,800,000
Sierra Leone	Colony ^c and Protectorate	27,625	1,768,480
Togoland (British)	Trusteeship	13,041	391,520
Far East			
Brunei	Protected State	2,220	48,634
Hong Kong	Colony	391	1,600,000
Malaya, Federation of (includes Penang and Malacca, formerly part of the Straits Settlements and the former Federated and Unfederated Malay States)	Protectorate	50,850	5,250,000
North Borneo	Colony	29,417	269,970
Sarawak	Colony	50,000	500,000
Singapore	Colony	217	948,300
Indian Ocean			
Aden	Colony ^c and Protectorate	115,080	730,880
Mauritius	Colony	720	428,270
Seychelles	Colony	156	35,020
Maldives Islands	Protected State	115	79,281
Mediterranean			
Cyprus	Colony	3,572	449,490
Gibraltar	Colony	11	21,230
Malta	Internally self-governing Colony	122	285,600

III BRITISH DEPENDENT TERRITORIES ADMINISTERED THROUGH THE COLONIAL OFFICE

Region and Territory	Form of government	Land area sq. miles	Population estimates
Atlantic Ocean			
Falkland Island	Colony	4,618	2,230
St. Helena	Colony	47	4,750
Ascension	Dependency of St. Helena	38	109
Tristan da Cunha Group	Dependency of St. Helena	45	224
West Indies and the Americas			
Bahamas	Colony	4,375	80,640
Barbados	Colony	166	195,400
Bermuda	Colony	21	34,970
British Guiana	Colony	83,000	381,320
British Honduras	Colony	8,867	59,150
Jamaica	Colony	4,411	1,314,130
Leeward Islands (Antigua, St. Kitt, Nevis, Virgin Islands Montserrat)	Colony	412	108,850
Trinidad and Tobago	Colony	1,080	558,610
Windward Islands (Grenada, St. Vincent, St. Lucia, Dominica)	Colony	133	72,000
St. Vincent	Colony	140	62,990
St. Lucia	Colony	233	69,000
Dominica	Colony	305	47,700
Western Pacific			
British Solomon Islands	Protectorate	11,500	94,070
Fiji	Colony	7,083	250,640
Gilbert and Ellice Islands	Colony	333	35,300
Tonga	Protectorate	250	40,070
Pitcairn Island	Colony	2	125

^c Adjoining areas administered by the same Government.

IV CONDOMINIUMS

Territory	Joint administration	Land area sq. miles	Population estimates
Anglo-Egyptian Sudan ^a	Britain and Egypt	967,500	6,500,000
New Hebrides	Britain and France	5,700	48,900
Canton and Enderbury	Britain and U.S.A.		

^a Administered through the British Foreign Office.

BRITISH GUIANA. A British colony on the northeast coast of South America. Area: 83,000 square miles. Population (1946 census): 375,819, including 168,453 East Indians. Chief towns: Georgetown (capital) 77,585 inhabitants (1946), New Amsterdam, Springlands, Morawhanna, and Bartica. Education (1946): 63,046 students enrolled in 248 government-aided schools.

Production. Agriculture, mining, and forestry are the chief industries. With 204,382 acres under cultivation in 1946, sugar yielded 171,051 tons from 60,313 acres; rice 64,472 tons from 85,623 acres. Other important products are coconuts, coffee, cacao, rubber, bakata, and citrus fruits. A total of 2,857,568 gallons of rum were produced in 1946. British Guiana is rich in gold; 24,741 oz., valued at £206,175, were produced in 1946. Diamonds are also mined, as is manganese ore, mica, and large quantities of bauxite. Livestock (1946 est.): 189,437 cattle, 2,518 horses, 48,044 sheep, 17,408 goats, and 34,601 swine.

Foreign Trade. Imports (1947): \$40,817,023; exports \$34,442,161. Chief imports were machinery, cotton manufactures, flour, oils, and foodstuffs. Chief suppliers were the United Kingdom, Canada, and the United States. Chief exports were sugar (185,109 tons valued at \$19,075,646); bauxite (1,290,367 tons valued at \$6,729,112); rice (19,625 tons valued at \$2,995,220); rum (\$1,978,641); and timber (\$1,017,457).

Government. A balanced budget estimate for 1948 provides for an expenditure of \$16,510,647. The 1947 estimates placed revenue at £2,976,192; ex-

penditure at £2,965,273. The public debt on Dec. 31, 1946, amounted to £869,898. Executive and administrative functions are exercised by the governor and executive council. A legislative council is composed of the governor and 3 other official members, 7 nominated unofficial, and 14 elected members. Governor: Sir Charles Campbell Woolley (since 1947).

BRITISH HONDURAS. A British crown colony in Central America. Area: 8,867 square miles, including Albion (26 sq. mi.) and other islands. Chief towns: Belize (capital) 21,837 inhabitants (1946), Corozal, Benque Viejo, Stann Creek, and Orange Walk. Education: Both elementary and secondary schools are denominational and government-aided. In 1946 the 115 schools had a total of 12,153 students.

Production and Trade. Forestry, the main industry, accounts for about 80 percent of the exports by value. A total of 488,384 acres of crown lands are forest reserves. Principal export crops, in 1946, were: grapefruit juice, 4,085,711 lb.; coconuts, 2,632,239 nuts; bananas, 84,798 bunches. Foreign Trade (1946): Imports were valued at \$6,782,516, and exports at \$5,222,028; of this amount mahogany accounted for \$1,201,056, and chicle \$1,014,161. The United States supplied 51.7 percent of the imports and took 45.7 percent of all exports.

Government. Budget (1947): revenue, \$3,163,248; expenditure, \$2,909,985. Public debt (Jan. 1, 1947) totaled \$2,105,781. Administration of the colony rests with the governor, assisted by an Executive Council of 3 official and 4 unofficial nominated members. A Legislative Council has 2 official and 10 unofficial members, 4 nominated and 6 elected. On Jan. 31, 1948, the governor appointed a Constitutional Committee. Governor: Sir Edward G. Hawkesworth (resigned June, 1948). Governor designate: R. H. Garvey (to assume office early in 1949).

BRITISH NORTH BORNEO. A British crown colony in northern Borneo. Area: 29,540 square miles. Population (1946): 312,374. Chief town: Sandakan (pop. 13,723). In 1946 the island of Labuan (35 sq. mi.; pop. 9,253; capital, Victoria) was reunited with British North Borneo. Education (1947): 60 government and 35 missionary schools with about 7,000 pupils.

The principal products are rubber, timber, copra, coconuts, dried and salt fish, tobacco, hemp, and cereals. Valuable minerals exist, but have not been commercially exploited. Trade (July 15-Dec. 31, 1946): imports \$8,155,886; exports \$4,009,356. Finance (1947 est.): revenue \$5,055,762; expenditure \$4,893,455. (Straits dollar [S\$] = U.S.\$0.475, 1946-48.) The colony is administered by a governor assisted by an Advisory Council of 20 members and an Executive Committee of 10 members. Governor: E. F. Twining.

BRITISH SOLOMON ISLANDS. The British Solomon Islands Protectorate consists of four groups of islands in the Pacific, eastward of New Guinea. The largest is Guadalcanal (2,500 sq. mi.); the most populous Malaita (est. pop. 40,000). Total land area is estimated at 12,400 square miles, and the area within the bounds of the protectorate at 375,000 nautical miles. Population (1947 est.): 94,965, of whom 94,738 were natives (Polynesians and Melanesians). Capital, Tulagi.

The chief products are copra, timber, rubber, gold, and fruits. Finance (1945-46): revenue and expenditure balanced at £A505,292 (£A equals U.S.\$3.20). A resident commissioner responsible to

the High Commissioner for the Western Pacific administers the islands with the assistance of an Advisory Council. Resident Commissioner, O. C. Noel, with headquarters on Guadalcanal.

BRITISH SOMALILAND. A British protectorate on the Gulf of Aden, near the eastern tip of the African continent. Area: 68,000 square miles. The nomadic population is estimated at 700,000 and consists of Somali tribes who are Moslems. Capital, Berbera (pop. 30,000). Education is provided by 5 government and several Koran schools. The economy is pastoral, with camels, sheep, and goats as sources of income. Agriculture is limited; there is millet growing in the western part. Trade (1946): imports £611,134 (excluding millet); exports £354,977. Meat, hides, and ghee are chief exports; cotton goods and foodstuffs are the chief imports. Finance (1946-47): revenue £451,081; expenditure £576,630. The protectorate, under military administration since 1941, reverted to Colonial Office control on Nov. 15, 1948. Civil Governor: Gerald Reece (formerly Military Governor).

BRITISH WEST AFRICA. A region comprising the following British territories: GAMBIA, GOLD COAST, NIGERIA and SIERRA LEONE, each of which is a colony and protectorate.

BRITISH WEST INDIES. The colonial possessions of Great Britain in the West Indies, comprising three main groups of islands: (1) Bahamas; (2) Jamaica and adjacent islands; and (3) other islands scattered throughout the Lesser Antilles (Leeward Islands, Windward Islands, Barbados, Trinidad, and Tobago). Bermuda, British Guiana, and British Honduras are excluded. Total area: 12,747 square miles. Population (1946 est.): 2,504,911. There is no unified governmental system; the island groups listed above constitute separate colonies, each with a governor appointed by the Crown and with varying degrees of popular representation in their legislative bodies.

The establishment of a West Indies Customs Union Commission has been announced. The Commission will assist the respective governments in the preparation of a common tariff, coordination of administration, and the training of staff.

On Nov. 3, 1948, a migration plan for the Caribbean was made public. The proposed plan, contained in the report of an investigating commission, calls for the transfer of 100,000 surplus population to British Guiana and British Honduras within the next ten years. (See CARIBBEAN COMMISSION and the articles on the various colonies listed in the first paragraph of this article.)

BROOKINGS INSTITUTION. A non-profit corporation devoted to research and training in economics and government. The income of the Institution is derived from grants from foundations, its own endowment, and the sale of publications. The publications resulting from its 1948 research program included: *The United States and Foreign Investment Problems*, by Cleona Lewis; *The Issue of Compulsory Health Insurance*, by Lewis Meriam and George W. Bachman; *Governmental Costs and Tax Levels*, by Lewis H. Kimmel and Mildred Maroney; *Union-Management Cooperation*, by Kurt Braun; and *Major Problems of United States Foreign Policy* (annual edition), by Leo Pasvolosky and others.

Officers for 1948 to 1949: Chairman, Robert P. Bass; Vice Chairman, Dean G. Acheson; President, Harold G. Moulton; Vice President, Lewis

Meriam; Treasurer, Mildred Maroney; Secretary, Elizabeth H. Wilson. Headquarters: 722 Jackson Place, Washington 6, D.C.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES. One of America's oldest and largest institutions for informal education, located in Brooklyn 17, New York. Its public activities are conducted at four centers: The Department of Education at the Academy of Music, the Central Museum, the Children's Museum, and the Botanic Garden. Founded in 1824, the Institute was incorporated in its present form in 1890. Total membership is about 5,700 and is open to everyone.

The Department of Education at the Academy of Music presents an adult education program annually of concerts, lectures, forums in every major field of the arts and sciences. Attendance at these events for the season 1947-48 was about 210,000.

The Institute's museums possess collections in arts, ethnology, and natural science. During 1941, the art and photography classes formerly conducted at the Department of Education at the Academy of Music were transferred to the Brooklyn Museum to form the new Art School of the Brooklyn Museum. Attendance at Central Museum was 430,000, at Children's Museum 170,000 for the fiscal year 1947-48.

The Institute's Botanic Garden comprises more than 50 acres and plant houses containing tropical and sub-tropical species. Botanic Garden attendance for the fiscal year 1947-48 totaled 1,280,000.

Officers: President, Brooklyn Institute, Adrian Van Sinderen; Director, Department of Education, Julius Bloom; Director, Brooklyn Museum, Charles Nagel, Jr.; Director, Botanic Garden, Dr. George S. Avery, Jr.

BRUNEI. A state on the northwest coast of Borneo, under the protection of Great Britain. Area, 2,226 square miles. Population (1947 est.), 48,034. Capital, Brunei (12,000). Important products include crude oil, cutch, rubber, jelutong, and sago. Trade (July-December, 1946): imports £375,000; exports £104,000. Finance (1947 est.): revenue £363,214; expenditure £255,046. The general administration of the state is in the hands of a British Resident, and the supreme authority is vested in the Sultan in Council, which includes the Resident, with the Sultan as President. Sultan: Ahmed Tajudin Akhazul Khairi Wad-din.

BRUSSELS, Treaty of. A treaty signed in Brussels on Mar. 17, 1948—by Great Britain, France, Netherlands, Belgium, and Luxembourg—to form a Western Union. Under the terms of this treaty the five Powers pledged themselves to the closest cooperation in economic matters and promised to give immediate military assistance if any one of them "should be the object of an armed attack in Europe." The five Powers also agreed to set up a permanent consultative council to meet in London.

During June 1948, the Senate adopted, by 64 votes to 4, a resolution presented by Senator Vandenberg urging the association of the United States with regional defense agreements. The Vandenberg resolution made it possible for the United States State Department to begin conversations in July with Canada and The Brussels Powers for an eventual North Atlantic Pact linking western Europe and North America and to send military representatives as "observers" to the meetings of the Defense Committee of the Brussels Powers.

BUCKWHEAT. The 1948 buckwheat crop of the United States was estimated by the Crop Reporting

Board of the U.S. Dept. of Agriculture 6,324,000 bushels. This was harvested from 337,000 acres. Yields (in bushels) of principal producing States were: Pennsylvania 1,000, New York 1,767,000, Minnesota Michigan 351,000, Ohio 304,000.

BUDDHIST CHURCHES OF AMERICA. Organized this body was incorporated under this 1942, and represents Buddhism in the States. The Buddhist faith is based on the doctrine, the idea of karma and nirvana, blissful mental state of absolute freedom. Total membership about 70,000. Headquarters 1881 Pine Street, San Francisco 9, Calif.

BUDGET, Bureau of the. A division of the Executive Office of the President of the United States transferred from the Department of the Treasury 1939, which assists the President in the execution of the Budget and the fiscal program of the Government. Its chief branches pertain to Relative Reference, Estimates, Administrative Management, Statistical Standards, and Fiscal. The Bureau has the authority to assemble, estimate, reduce, or increase the estimates of the Government. Under the Government Control Act, Dec. 6, 1945, similar authority was given the Bureau with respect to the preparation and review of budgets of wholly owned Government corporations. Director: Frank Pace, Jr.

BUHL FOUNDATION. A foundation established 1928 by Henry Buhl, Jr. Capital assets were 495,664 in 1948, and expenditures for the year totaled \$276,872. The Foundation's program is centered in the Pittsburgh area, where it has to provide more adequate factual bases for social work and regional economic effort, promote research in public health and the sciences, and to develop the community's interest in higher education. Another objective is advancement of housing standards for slum cities, as exemplified in large-scale, planned communities administered on a long-term basis. In demonstration of this last-named objective, the Foundation operates Chatham V Pittsburgh, built in 1932 at a cost of \$1,100,000. The Buhl Planetarium and Institute of Science was built at a cost of \$1,100,000 as a gift to the people of Western Pennsylvania. Director: Charles F. Lewis. Offices: Farm Building, Pittsburgh 22, Pa.

BULGARIA. A Balkan republic in southeastern Europe. Area: 42,808 square miles (including Dobruja). Population (Dec. 31, 1947), 7,022,206. Of these 680,000 were Turks, Gypsies, 50,000 Jews, and 24,000 Armenians. Cities (1946 pop.): Sofia (capital) 436,971; div 122,875; Varna 77,636; Rousse, 50,754; 43,075; Plevna 37,092. Vital statistics: crude birth rate per 1,000 (1st quarter, 1947); living birth rate 17.7; infant mortality 124 (death rate one year); marriages 12.5 (1936).

Education and Religion. In September, 1947, there were 544 kindergartens, 5,775 grade schools, 258 gymnasiums, 33 evening gymnasiums, similar high schools for adults; Sofia State University has been expanded, and three provincial universities have been opened, raising the level of higher education from 13,789 in 1944 to 19,477 in 1947. The predominant religion is the Greek Orthodox Church.

Production. Agriculture is the principal occupation, nearly 6 million of the population being peasants. Of the total arable area (4,522,000 hectares), some 2,563,000 hectares (hectare—2.47 acres) were sown with cereals (wheat, maize, barley, rye, oats, and rice). In 1947, Bulgaria's continuous economic recovery, even though hampered by a third consecutive drought, can be gauged from the following production figures:

	1947	1946	1945
General index (1939 = 100)	133.2	115.2	112.0
Capital goods "	131.9	115.4	88.1
Consumer goods "	143.7	118.2	118.5
Food stuffs "	80.7	99.8	95.5
Cotton (tons)	1,061	1,013	707
Iron and steel "	1,843	1,665	673
Metals "	217	84	103
Coal "	83,305	83,603	78,428
Electric energy (1000 kw)	14,579	13,641	11,901

Industrial crops grown include tobacco (37,965 metric tons in 1946), sugar beet, sunflower, aniseed, peanuts, and peppermint. Fruit grows in abundance. Livestock (1945): 7,054,348 sheep, 1,367,928 cattle, 714,567 goats, 471,576 horses, 888,000 pigs, and 6,615,000 poultry. Mineral output is small except for coal (lignite), the output of which amounted to 3,924,000 metric tons (1947).

In December, 1947, industry and mines were nationalized. Under the Five-Year Plan, Bulgaria's agriculture is to be collectivized; 150 new machine-tractor stations are to be set up, and cooperative farms developed. At present only 4 percent of the arable land is owned by cooperative farms; by 1953 about 30 percent of the land will be so owned. In 1947 Bulgaria had 675 cooperative villages, with 65,000 members and 210,000 hectares of land.

Foreign Trade. In 1947 Bulgaria sizably increased its trade, both in volume (701,397 tons as against 617,584 in 1946) and in value (45,948 million leva as against 32,456). Total imports rose by 22.3 percent (21.4 as against 17,514 million leva), while exports rose by 64.2 percent (24.5 as against 14,942 million leva). Commercial relations with the U.S.S.R., Czechoslovakia, Poland, and Yugoslavia were strengthened; they supplied Bulgaria with the bulk of imports (84.6 percent) and exports (83.8 percent). Trade with other Central European states also picked up as well as with Holland, Sweden, and Italy; Egypt became an important export market. The main import categories—metals, machines, and textiles—showed increases; cereal imports, due to the third consecutive drought, were relatively heavy. Tobacco alone covered more than four-fifths of exports; other exports items were: lamb hides, lead ore concentrates, coal, and tomato pulp.

Finance. The principal sources of revenue are direct and indirect taxes. The 1946 budget placed revenue at 77,007.9 million leva; expenditure at 80,883.6 million leva. The public debt on Mar. 31, 1946 totaled 112,235,683,310 leva.

Transportation. In 1941 there were 15,000 miles of highways, 4,500 passenger automobiles, 1,000 buses, and 3,000 trucks. Government-owned railroad lines extended 2,350 miles. In 1939 there were 49 miles of electric railways. All railways connect Sofia with the general European system.

Government. As a result of a referendum of Sept. 8, 1946, the monarchy was abolished. The Bulgarian People's Republic was proclaimed by the National Assembly on Sept. 15, 1946. A new Constitution was adopted by the National Assembly on Dec. 4, 1947. The Assembly is empowered to elect a Presidium of a President, two deputy Presi-

dents, and 15 members. President, Vasil Kolorov (Communist); Premier, Georgi Dimitrov (Communist). On Jan. 23, 1948, new insignia for the People's Republic were approved: a circle, in its centre a lion supported on each side by ears of corn, surrounded by a six-pointed star, with the inscription "9th of September 1944" below.

Events, 1948. Under Premier Dimitrov, Bulgaria remained a faithful executor and proponent of Pan-Soviet and Pan-Slavic policies of the U.S.S.R. On Dec. 9, 1947, the new Constitution, modelled after that of Soviet Russia, came into force. On Feb. 4, 1948, the Fatherland Front, headed by Dimitrov and the Communists but including representatives of four other parties, became the sole party organization in the state.

An illuminating illustration of the workings of Bulgaria's "People's Democracy" was furnished on January 12, when Dimitrov presented his budget to the National Assembly; when Social Democratic deputies had the temerity to criticize it the Premier gave them the alternative of voting for it, or being hanged—backing his threat by reminding his critics of the fate of the executed Nikola Petkov.

In February, the National Assembly passed a bill for the expropriation of all urban real estate holdings; the owners to be left one house, or apartment per family, and professional premises if any; all hotels, warehouses, and villas were to be expropriated. On June 7, the decree for the nationalization of mines and natural resources was promulgated; all concessions for prospecting and ore exploitation were annulled without compensation.

During the summer holidays all Bulgarian teachers had to attend special courses on Marxist-Leninist political education, a diploma from one of these schools being required for their continued work as teachers. In September all foreign and congregational schools were closed and their teachers received orders to leave Bulgaria immediately.

The U.S.S.R. left no stone unturned to safeguard Bulgaria's adherence to her fold, especially since the defection of Tito from the Cominform left the Balkan flank exposed. Nevertheless, Dimitrov's original ambition to head a Balkan Slav bloc was halted by the Kremlin in February, when it flatly refused to endorse "Dimitrov's attitude" and stated that the Balkan's sole need was the organization of "domestic popular democratic forces" as foreseen by the nine communist parties of the Cominform. Dimitrov, an old-line Communist accustomed to twists and turns of Soviet policy, hastily scrambled back into line and reemphasized that the idea was "premature."

After officially withdrawing the Red Army from Bulgaria, Moscow left some 50,000 troops behind as civilians, to form cadres for an expansion of the Bulgarian army. On Mar. 18, 1948 Moscow concluded a 20-year Treaty of Friendship, Cooperation, and Mutual Military Defense with Sofia (complementing Moscow's pacts with Rumania and Hungary); the network of the "Pan-Slav" alliances was strengthened by the Bulgaro-Czechoslovak Alliance of April 23.

After Tito's defection from the Cominform, Dimitrov started attacking Tito's attitude and the old Macedonian problem reappeared, Sofia claiming that Bulgarian nationals in Yugoslav Macedonia were being "persecuted." But in April, Bulgaria allowed an observation group from the UN Special Commission on the Balkans to enter the country—the first time a Commission had been allowed to cross a border of any of Greece's northern neighbors.

In September the Commission again reported that Bulgaria (as well as Albania and Yugoslavia) were helping the guerrillas fighting in Greece. Several protests by the United States were fruitless; thus on November 22, the State Department accused the regime of having smashed its last parliamentary opposition by jailing nine Independent Socialist deputies after secret trials on trumped-up charges: "In thus terminating the final pretense of Bulgarian democracy by eliminating these remaining elected representatives of the opposition, the Bulgarian regime has again violated its covenanted obligation under Article 2 of the Treaty of Peace to assure its citizens basic fundamental freedoms." —JOSEPH S. ROUCKER

BURMA, Union of. A country in southeastern Asia, formerly a British possession, but from Jan. 4, 1948, an independent state outside the British Commonwealth. The Union consists of the territories formerly governed by Great Britain and the Shan, Kachin, and Karenni states.

Area and Population. Area: 261,757 square miles, of which Burma proper covers 196,161 square miles. Population in 1941: 16,823,798, of whom the majority were Burmans. Chief indigenous non-Burmese, 1941: Karens, 1,200,000; Shans, 1,000,000; Chins, 300,000; Kachins, 150,000. Chief non-indigenous groups: Indians, 887,000; Chinese, 150,000. Chief cities in 1931: Rangoon (capital), 400,415; Mandalay, 147,932.

Education and Religion. After the reoccupation of the country in 1945 a state-controlled system of education was introduced. The system includes primary and secondary schools (628,092 students in 1946) with the University of Rangoon at the apex (2,000 enrollment in 1947). Buddhist monasteries in the villages give elementary instruction. About 84 percent of the people are Buddhists, and nearly all of the rest belong to Animist, Mohammedan, Hindu or Christian sects.

Production and Trade. The economy, which is chiefly agricultural, has long been dominated by rice, both in production and export. Before World War II Burma grew about 6,000,000 tons of rice annually, exporting it chiefly to India and Ceylon. In 1946-1947 rice production was restored to 5,500,000 tons, but 1947-1948 estimates were lower. Other important crops (1945-1946) were: sesamum (32,059 tons), groundnuts (76,385 tons), maize (12,454 tons), and cotton (3,659 tons). Exports of teak, of which Burma is the world's largest producer, were 68,179 cubic tons in the 20 months from July, 1946, through February, 1948. Livestock (1946): cattle, 3,025,643; buffaloes, 602,782; goats, 144,089; pigs, 258,154.

Imports of cotton were 112,710,000 yards in 1947. The United Kingdom and India were the principal suppliers. Burma's merchandise imports have ordinarily been less than half the value of exports, with invisible imports, largely capital equipment for non-Burmans, making up the balance. It is expected that the new government will try to increase imports and production of manufactured goods for the indigenous population. Plans for the establishment of government-controlled chemical, cotton, and sugar-refining plants have been made.

Transportation. Burma had 1,449 miles of railway in 1947. Before invasion there were 3,760 miles of hard-surfaced roads, but by 1948 only the road from Rangoon to Mandalay had been fully restored. The Irrawaddy River is navigable for 900 miles from the sea, and its tributary, the Chindwin, is navigable for 300 miles.

Finance. The link between Indian and Burmese currency was broken on Apr. 1, 1947, and the Burmese Currency Board took over the management of Burmese currency. By agreement with the British Government Burma was permitted to draw on the central reserve of the sterling area for £2,000,000 to meet its needs of hard currencies in the second half of 1948.

Government. According to the Constitution passed on Sept. 24, 1947, and in full effect on Jan. 4, 1948, legislative power is vested in a Parliament consisting of the Chamber of Deputies of about 250 members and the Chamber of Nationalities of 125 members, 53 of whom represent the Union proper and the remainder the states and tribal areas. The President of the Union is elected for a five-year term by both chambers in joint session. He has no right of veto. The Constitution regulates the position of the Shan, Kachin, Karenni and Karen states and the Chin people, by providing that each shall be represented in the Cabinet by a minister chosen from its own members. President on Jan. 4, 1948, the Sawbwa of Yawngghwe; Prime Minister, Thakin Nu; Foreign Minister, U Tin Tut. U Kyaw Nyein, Minister for Home Affairs, became Foreign Minister in September, 1948. See under *Events*, 1948.

Events, 1948. The year which began auspiciously with the inauguration of the Republic of Burma on Jan. 4, 1948, soon developed into a period of revolt and wide spread distress among the Burmese people. As the last British Governor, Sir Hubert Rance, gave up his tokens of power to the Sawbwa of Yawngghwe, the new President, the future seemed bright. The Cabinet of Thakin Nu was working hard to restore order, to bring back the rice crop to its former volume and improve the standard of living. The Government appeared to enjoy the support of the majority of the people.

In April the promotion of strikes by Communists under the leadership of Than Tun was an omen of worse to come. The Government, itself committed to government ownership and the expropriation of the foreigner, resorted to mass arrests when political strikes were promoted by more extreme factions. On May 26 Prime Minister Thakin Nu announced that he would resign on July 20, because of a religious vow. The Prime Minister ascribed the increasing dissension in his party, the Anti-Fascist People's Freedom League, to three aspects of the struggle for material and political power, and later issued a statement describing a United Party of the Left which he wished to found.

The Government's chief antagonists were the large number of Communists, the "White Band" People's Volunteer Organization which joined the Communists when the Government refused to come to terms with the latter, and the Karen anti-leftist minority who thought this the time to work towards independence. The conspicuous Communist groups were the Trotskyist "Red Flags" and the Stalinist "White Flags."

As Thakin Nu's campaign progressed he emphasized the intention of the United Left Party to throw off the yoke of capitalism and to follow Russian ideology. It was at this time that a considerable number of the People's Volunteer Organization withdrew from the Anti-Fascist People's Freedom League. Unfortunately for the League, its cooperating Socialist Party was under a cloud because its chairman, U Ko Ko Gyi, as Minister of Commerce was nominally responsible for questionable customs activities at Rangoon.

U Ko Ko Gyi and the Minister of Defense, Bo Let Ya, sent in their resignations. On July 15 the

Cabinet resigned as a whole. Thakin Nu then accepted the President's invitation to form a caretaker government until Parliament could meet to hold elections. There were indications that the Government now planned to act more vigorously in putting down the Communist insurrection, which did not then appear to have reached dangerous dimensions, although it was already interfering with rice production.

Spread of the Revolts. By the middle of August a large area of central Burma was under the domination of Than Tun's Communists, apparently with the support of a considerable section of the People's Volunteer Party. Units of the regular army had mutinied and brigandage was spreading. Rangoon itself was under attack and the rice port of Bassein was closed. The power of the central government was breaking down.

The Karens, who differ from the Burmans in language, traditions and temperament, seized this opportunity to effect an anti-leftist revolt. The Karens had long resented the favors granted by the British authorities to the Anti-Fascist People's Freedom League representatives, many of whom had collaborated with the Japanese while the Karens were resisting them.

Early in September, a small Karen force occupied two towns in the area envisaged by the Karen National Union as that destined to be a separate Karen state and set up a provisional Karen administration which for a time issued its orders from Moulmein, Burma's third city. This was done without fighting and without molesting the non-Karen population.

Thakin Nu was reelected Prime Minister of Burma on September 14. At the same time the Cabinet was enlarged and all existing ministers were reelected. On September 17 U Tin Tut, who had resigned as Foreign Minister to become Inspector General of the Burmese Auxiliary Force and was shortly to become Burmese Ambassador to Britain, was fatally injured by a bomb placed in his car. He died the next day. This assassination recalled the killing of *de facto* premier U Aung San and 6 other ministers July, 1947.

A state of emergency was declared, and the Government's position continued to deteriorate. By the end of September the Communists had cut the railway line between Rangoon and Mandalay. The Foreign Minister who succeeded U Tin Tut, former Minister for Home Affairs U Kyaw Nyein, arrived in London late in October, ostensibly for the purpose of seeking arms and planes to aid the Government in its campaign. It was recognized in London that the sending of troops to Burma, now an independent country outside the British Commonwealth, would be an impossibility.

—ALZADA COMSTOCK

BUSINESS REVIEW. In 1948 business activity on the whole surpassed even the record peacetime level reached in the previous year. While some of the consumer goods industries began to feel the effects of somewhat reduced demand, a number of the principal heavy industries reached new postwar peaks. The leveling off in soft goods fields was counteracted by large government expenditures for rearmament and foreign aid and by unprecedentedly high outlays by business for plant and equipment. As a result, the Federal Reserve Board's index of industrial production reached 195 towards the end of the year, output for the year showing an increase of 3 percent. The volume of crops was the largest ever harvested, exceeding the 1947 record total by about 9 percent.

Despite a substantial decline in prices of agricultural products, due to the record crops, wholesale commodity prices as a whole showed virtually no decline, while the cost of living continued to rise and inflationary pressures in the economy again caused general concern. In mid-summer, however, the price trend turned moderately downward, leading to a widespread belief that the inflationary forces had reached their peak.

Total employment reached a postwar high of 61,600,000 in July, but there were evidences toward the end of the year of increasing unemployment due to lower production levels in a number of industries that had caught up with the demand. Idleness from strikes represented 0.4 percent of available working time in the first 10 months of the year, continuing the relatively low level of the previous year. Construction activity, led by the housing boom, showed a considerable increase, while retail sales registered a moderate gain over the preceding year.

National Product and National Income. The gross national product in 1948, representing the total value of all of the goods and services produced, was estimated at \$250,000 million, on the basis of preliminary calculations. This was approximately 8 percent more than the total of the previous year, but part of the rise was due to higher prices. National income, which measures the earnings from current production received by individuals, was estimated at \$225,000 million, registering a gain of about a tenth over 1947. Income payments to individuals amounted to about \$212,000 million as compared with \$195,000 million in the previous year. After deductions for personal taxes and related items, disposable personal income was estimated at \$190,000 million, representing an increase of 9 percent over the preceding twelve months. Of this total, \$177,000 million was expended for purposes of personal consumption, 7 percent more than in 1947. This left personal savings of \$13,000 million, as against \$8,800 million the year before. In 1948 about 7 percent of disposable personal income was saved as against 5 percent in 1947.

Of the total personal expenditures, approximately one-eighth went for durable consumer goods, almost three-fifths for non-durable goods, and about three-tenths for purchase of services. Private domestic investment, constituting more than a seventh of the gross national product, rose by about a fourth over 1947. Government purchases of goods and services absorbed over one-eighth of the gross national product and increased by more than a fifth over 1947. Of such purchases, the Federal government accounted for about 55 percent and state and local governments for the remainder.

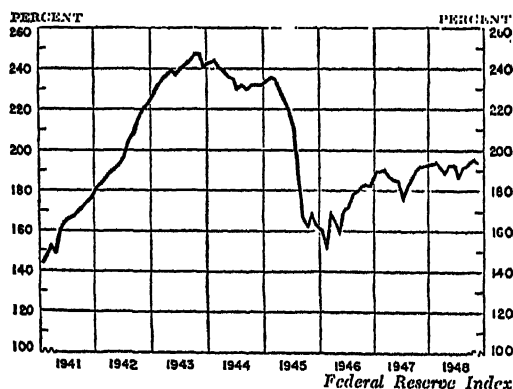
Construction. Building activity showed a substantial increase in 1948, the volume of construction, totaling approximately \$18,000 million, surpassing that of the previous year by about 26 percent. While in dollar value this represented a new record, the physical volume of construction was considerably below the previous peacetime peaks set in the 1920's. Despite a slackening off in the second half of the year, the total amount of housing construction was considerably above that of 1947. The number of new permanent non-farm dwelling units started during the year was approximately 925,000, as against 849,000 in the preceding 12 months. It also closely approached the previous peak of 937,000 established in 1925.

The real estate market was greatly stimulated by the acute housing shortage and the liberal mortgage terms permitted under the Veterans' and Fed-

eral Housing Administration programs. High building costs and some tightening of mortgage financing, as well as the large amount of new housing built in the previous two years, brought about a decline in activity towards the end of the year. The cost of building residences increased by about 10 percent during the year. As a result of the post-war housing boom, in 1948 about a half of all non-farm families owned their own homes, the largest proportion on record. On the other hand, the proportion of mortgaged homes was larger than ever before.

The total estimated value of private non-farm residential construction in 1948 was \$7,000 million, constituting two-fifths of the total dollar volume of building and increasing by about a third. The high level of business activity also resulted in a large amount of commercial and industrial construction, private non-residential building being estimated at about \$3,500 million. New public construction, for highways, public buildings and other projects, totaled approximately \$1,000 million.

Durable Goods Industries. The continued high demand for steel, automobiles, and industrial and transportation equipment featured the high level of activity maintained by the heavy industries during the year. Although held back by inadequate supplies of steel, the automobile industry, produced 5,274,000 motor vehicles, a record exceeded only in 1929. The year's output of 3,900,000 passenger cars was 10 percent above the 1947 figure, while truck production of nearly 1,374,000 surpassed the former all-time record set in 1947. A new peak was reached in production of replacement parts with a wholesale value of \$2,600 million, 10 percent above the 1947 figure, while employment and payrolls in the industry also reached new highs.



The steel industry likewise operated at near all-time records levels. Steel output in 1948, totaling 88 million tons, was 3½ percent above that of 1947. It was higher than in any peacetime year and within one percent of the peak outputs attained during the war years 1943-44. Production in October established an all-time monthly record. Operations of the industry in the last few months of the year ranged between 96 and 100 percent of capacity. The total payroll of iron and steel companies was 12 percent above that of 1947 and 28 percent above the wartime peak. Nevertheless, the continued strong demand by many heavy goods industries caused a shortage of steel in a number of lines.

A major factor in the heavy demand for steel was the record total of expenditures by industry on new plant and equipment, which were estimated at \$19,000 million, a gain of approximately one-sixth over the preceding year. Most of this gain was accounted for by higher prices. More than two-fifths of the expenditures for new plants and equipment were made by manufacturing enterprises and about one-seventh by electric and gas utilities. Commercial concerns, railroads and other transport companies and mining corporations also made heavy outlays.

Among the other durable goods industries that showed gains over the preceding year were railway passenger and freight cars, building materials, non-ferrous metals and products, and such durable consumer goods as electric refrigerators and ranges and washing machines. A substantial decline in output of radios was counteracted by the phenomenal increase in production of television sets. Output of wooden household furniture reached a record dollar value but unit production declined somewhat, as did that of vacuum cleaners.

Mineral production in 1948 reached new high levels both in dollar value and tonnage. Production and consumption of petroleum products were at all-time highs, output of crude oil increasing by 8 percent over 1947. Domestic output of bauxite, the raw material for aluminum, was at a peacetime high, although about one-third below the record war year of 1944. There were slight declines in tonnage production of copper, zinc, and lead but price increases brought dollar volume to above the 1947 total. Gold mine output went down about 10 percent while silver production increased by 5 percent.

The changes in the output of the principal durable goods industries are shown in Table 1.

TABLE 1 DURABLE GOODS PRODUCTION
[1935-39 average = 100]

Commodity	Oct. 1947	Oct. 1948
Iron and steel	205	221
Machinery	280	270
Automobiles (including parts)	108	201
Non ferrous metals and products	170	193
Lumber	128	135
Furniture	172	167
Glass products	210	220
Cement	174	181
Chemical products	161	172
Textile products	230	242
Abrasive and asbestos products	221	251
Durable Manufactures Total	223	230

Consumer Non-durable Goods. In the non-durable goods fields, particularly textiles and apparel, the latter part of 1948 was characterized by leveling off in demand and accumulation of inventories. This situation was reflected in a reduction in the price of cotton textiles and in some slow-down in production and employment during the fourth quarter. During the year, for the first time since the war more firms went out of business in the manufacture of apparel than the number of new businesses started. The cotton textile industry was one of the few major industries to show a substantial decline from the postwar peak. Contributing to the contraction in demand for cotton fabrics was the decline in exports.

Because of the high profit margins of the previous year, however, the industry was in a good position to withstand the impact of falling prices without much reduction in operations. In addition, the cost of the raw cotton used in the manufacture of staple fabrics declined about 15 percent.

In contrast to cottons, demand for woolen and

worsted goods continued strong and prices rose by about 12 percent in the year ending October. In the last few months of 1948, however, there was evidence of an easing of demand in the men's wear field, now and unfilled orders falling below the totals for the corresponding period of 1947.

Orders for women's apparel continued to maintain about the same high level as in the preceding year. Because of the brisk demand for women's clothing, the increased supply of materials, and the continued growth of consumer income, output of apparel as a whole kept up to the peak peacetime levels. A substantial part of the production of fabrics and clothing, however, went into inventories, since sales increased less than the accumulation of stocks. On the whole, the leveling off in demand for apparel was not yet reflected in price declines, although towards the end of the year, manufacturers of various types of cotton apparel announced lower prices for spring deliveries.

Other non-durable industries recording increases in 1948 included rayon products, paper and newsprint. While cigarettes showed no appreciable change, the output of shoes and alcoholic beverages declined. The index of production of the principal non-durable goods fields is shown in Table 2.

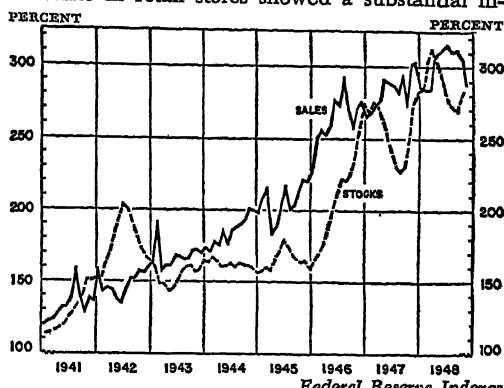
TABLE 2 NON DURABLE GOODS PRODUCTION
[1935-39 average = 100]

	Oct. 1947	Oct. 1948
Textiles and products.....	164	166
Cotton consumption.....	139	129
Rayon deliveries.....	280	321
Wool textiles.....	167	167
Leather tanning.....	121	113
Shoes.....	128	117
Wheat flour.....	136	134
Butter.....	76	75
Cheese.....	163	162
Canned and dried milk.....	167	167
Meat packing.....	142	141
Pork and lard.....	141	157
Beef.....	146	127
Veal.....	171	140
Lamb and mutton.....	109	112
Processed fruits and vegetables.....	134	160
Alcoholic beverages.....	220	186
Cigars.....	126	122
Cigarettes.....	229	230
Pulp.....	177	195
Paper.....	164	162
Printing and publishing.....	152	164
Gasoline.....	162	170
Coke.....	177	181
Paints.....	152	158
Soap.....	138	135
Rayon.....	204	308
Industrial chemicals.....	427	451
Rubber products.....	223	210
Non-durable Manufactures—Total.....	176	179

Retail Trade. For 1948 as a whole, the Federal Reserve Board's index of department store sales showed an increase of about 5 percent over the previous 12 months. During the last months of the year, however, sales leveled off somewhat, with consumer resistance apparently increasing. There were indications, moreover, that dollar volume was kept at a high level by increased prices, since unit sales for a number of soft goods items, notably men's clothing, were considerably less towards the end of the year than in 1947.

Retail sales, as a whole, were fairly well stabilized, with expanded sales in the automotive group, as supplies increased, and reductions or little change in hardware and house furnishings. In soft goods stores sales were above those of 1947, but remained about on a level during the second half of the year. An important factor in the increase in retail trade was the large expansion in instalment

debt, which on November 30 reached the record total of \$7,900 million, showing a rise of 20 percent in a year. Total consumer credit, including charge accounts and loans as well as instalment credit, also reached a new high of \$15,300 million. Inventories in retail stores showed a substantial in-



DEPARTMENT STORE SALES AND STOCKS

Dollar Volume Seasonally Adjusted, 1935-39=100

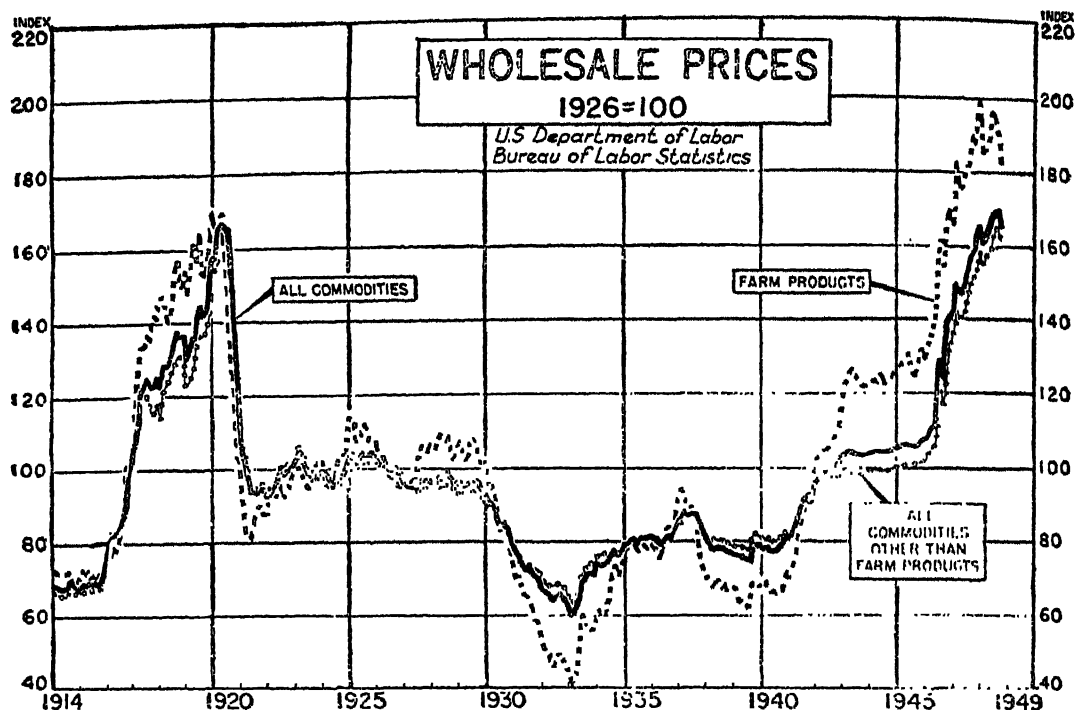
crease over 1947. (See Table 3.) Particularly noticeable was the accumulation of inventories in the men's clothing field, where sales leveled off while stocks continued to mount.

TABLE 3—DEPARTMENT STORE SALES AND INVENTORIES
[1935-39 average = 100]

Month	Sales		Inventories	
	1947	1948	1947	1948
January.....	265	286	268	289
February.....	268	286	275	303
March.....	273	285	273	312
April.....	276	306	264	308
May.....	291	310	252	297
June.....	289	312	241	285
July.....	287	316	230	275
August.....	282	311	227	268
September.....	294	312	233	276
October.....	279	306	252	282
November.....	302	287	273	304
December.....	303	309	284	306
Average for year.....	280	302	255	292

Business Inventories. Because of the lessened demand in some industries, the smaller impact of price increases on inventories, and the filling of "pipe lines" in the previous two years, business inventories in 1948 expanded less rapidly than in 1947. At the end of October, inventories of all business establishments totaled \$54,400 million, representing a gain of 14 percent in a year as against a rise of 20 percent in the preceding twelve months. Manufacturers' inventories increased to \$31,100 million during November, a gain of \$3,500 million over the previous year—also considerably less than the increase in 1947. The slowing up in the rate of expansion of inventories reflected a more cautious attitude on the part of business with regard to the future outlook for prices and production.

Commodity Prices. After reaching the all-time high point on August 15, the consumers' price index, measuring the cost of goods and services bought by moderate-income families in large cities, remained for a time at that level and then began to decline slowly. By mid-November the index stood at 172.2 (compared with the 1935-39 base of 100), a decline of 1.3 percent from the peak reached in the summer. This index, however, was 4.4 percent higher than a year before. The principal factor in the decline in the last months of the



year was the drop in food prices, which in four months decreased by more than 4 percent from the record high level reached in July. As of November 15 food prices were 2.4 percent above those on the same date in 1947.

Wholesale prices also began to turn downward in mid-summer, the decline being due entirely to the drop in prices of farm products caused by the record crops. During the year the reduction in prices of farm products, which reached their peak in January, amounted to almost 11 percent, although government price support operations for the principal crops tended to keep prices up. Wholesale food prices declined by about 3 percent. On the other hand, prices of all commodities other than farm and food products went up 4 per-

TABLE 4—WHOLESALE COMMODITY PRICES
(1926 = 100)

Commodity Classification	Dec. 28, 1948	Dec. 30, 1947
All commodities.....	163.5	164.5
Farm products.....	177.4	199.0
Food.....	173.6	179.2
All commodities other than farm & foods.....	152.5	146.7
Textile products.....	145.6	149.4
Fuel and mining materials.....	136.9	127.7
Metals and metal products.....	173.8	151.9
Building materials.....	200.3	192.6
All other.....	132.8	137.5
Special indexes.....		
Grains.....	170.9	248.2
Livestock.....	221.4	250.3
Meats.....	228.7	238.4
Hides and skins.....	192.5	245.4

cent. As a result, the wholesale price index for all commodities, which was 163.5 on Dec. 28, 1948 (with 1926 = 100), was only 0.6 percent below that of the index of the year before. This made 1948 the first year since 1938 in which wholesale prices failed to show a rise. While textile products showed a slight decline, fuels, building materials and metals went up. The increase for metals and metal products amounted to more than 14 percent, due to the excess of demand over supply.

The changes in the indexes of wholesale com-

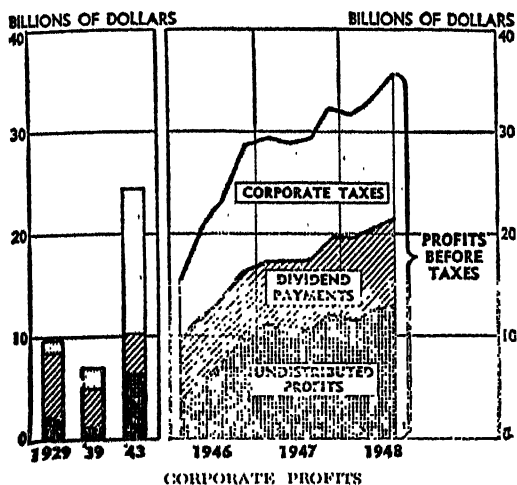
TABLE 5—RANGE OF COMMODITY CASH PRICES
FOR 1948

Foodstuffs	Highest	Lowest
Wheat, #2, red, bu....	\$3.41 Jan. 16	\$2.41 Aug. 2
Corn, #2, yellow, bu....	3.02 Jan. 16	1.60 Oct. 30
Rye, #2, Western, bu....	3.17 Jan. 15	1.71 Sep. 7
Oats, #2, white, bu....	1.60 Jan. 21	.89 Sep. 21
Flour, spring pat., 100 lbs.....	8.15 Jan. 12	5.55 Aug. 24
Coffee, No. 4s Santos, lb.....	.271 Nov. 24	.251 Feb. 20
Cocoa, Bahia, lb.....	.474 Feb. 3	.30 Dec. 15
Sugar, granulated, lb.....	.0840 Jan. 2	.0750 May 13
Sugar, raw, c. & b., lb. (#5).....	.0530 Jan. 2	.0150 May 12
Butter, 92 score, lb.....	.92 Jan. 2	.591 Oct. 28
Lard, Midwestern, lb.....	.2975 Jan. 13	.1687 Dec. 31
Metals		
Iron, #2, Philadelphia, ton.....	50.07 Sep. 24	30.31 Jan. 2
Steel billets, Pitts., net ton.....	52.00 July 23	45.00 Mar. 12
Steel, scrap, heavy, Pitts., delivery, ton.....	49.00 Sep. 21	43.00 Jan. 2
Copper, electrolytic, lb.....	.231 Aug. 3	.21 Jan. 2
Antimony, American, lb.....	.4017 Oct. 11	.3144 Jan. 2
Aluminum, ingot, lb.....	.17 Oct. 11	.15 Jan. 2
Lead, lb.....	.211 Nov. 1	.15 Jan. 2
Quicksilver, flask, 76 lbs.....	94.00 Dec. 22	76.00 June 7
Zinc, East St. Louis, lb.....	.1750 Nov. 15	.1050 Jan. 2
Zinc, New York, lb.....	.1816 Nov. 15	.1106 Jan. 2
Tin, Straits, lb.....	1.03 June 1	.94 Jan. 2
Textiles		
Cotton, mid., 15/64, lb.....	.3963 Apr. 21	.3152 Aug. 23
Printcloths, 64/60, 38 1/2 yd.....	.27 Jan. 2	.151 Oct. 28
Miscellaneous		
Rubber, No. 1 standard rib smoked sheets, lb.....	.25 July 26	.18 Nov. 30
Hides, packers, light, lb.....	.311 Jan. 2	.23 Mar. 12
Hides, butt hard, lb.....	.201 Jan. 21	.20 Mar. 12
Gas, tank, wagg, dir., gal.....	.1300 Dec. 29	.1330 Jan. 2
Crude oil, Mid-Cont., 33 to 33.9 gravity, barrel.....	2.86 Sep. 28	2.51 Jan. 2

modity prices are shown in Table 4.

The range of commodity prices in 1948 in the New York market (unless otherwise noted) is given in Table 5.

Corporation Profits. Profits of business corporations showed a substantial increase in 1948 over the previous record total registered in 1947. Profits after taxes were estimated at about \$21,000 million as against \$18,000 million the year before. In the first nine months of 1948 corporate profits after taxes represented 16.6 percent of income originating in corporate business, which measures the net contribution of private corporations to the total national output. This ratio was somewhat higher than in 1947 and a larger percentage than in any year except 1929. The ratio of profits to sales was around 5 percent. Compensation of employees amounted to 74.5 percent of income originating in corporate business as against 76.5 percent in the previous year.



According to a compilation of the National City Bank, net income of 400 large corporations, with an aggregate net worth of \$20,000 million, showed a gain in the first three quarters of 1948 of 31 percent over the same period of 1947. Return on net worth of these companies amounted to 18.7 percent as against 16.0 percent the previous year.

TABLE 6—NET INCOME OF 400 LEADING CORPORATIONS FOR THE FIRST NINE MONTHS (in millions of dollars)

Industrial groups	Net income nine months		% Annual return on net worth	
	1947	1948	1947	1948
Food products.....	\$ 116.0	\$ 107.0	20.1	16.8
Textiles and apparel.....	65.9	77.8	21.7	22.5
Pulp and paper products.....	62.3	65.4	26.9	23.0
Chemicals, drugs, etc.....	277.2	320.7	17.0	16.9
Petroleum products.....	410.8	718.5	14.1	21.3
Cement, glass, and stone.....	51.8	69.5	18.3	20.8
Iron and steel.....	289.5	346.7	11.1	12.6
Electrical equip. and radio.....	129.9	154.2	18.4	19.5
Machinery.....	38.8	42.8	16.0	16.2
Office equipment.....	46.7	53.8	25.3	25.4
Automos and trucks.....	238.2	356.6	19.3	26.1
Automobile parts.....	40.3	52.0	20.5	20.1
Other metal products.....	131.1	149.4	16.0	17.4
Miscellaneous mfg.....	88.6	95.3	17.7	17.0
Total manufacturing.....	1,993.1	2,600.7	16.1	18.7
Mining and quarrying.....	87.0	124.8	17.0	21.7
Trade (retail and whol.).....	29.0	31.9	13.5	13.7
Service industries.....	12.7	13.7	11.2	11.7
Total.....	\$2,121.8	\$2,780.1	16.0	18.7

Especially large increases were recorded in the petroleum, chemical, textile, building materials, steel, automobile and electrical equipment industries. The profits and return on net worth of the

enterprises included in the calculation are shown in Table 6 below.

Foreign Trade. An outstanding feature of United States foreign trade in 1948 was the narrowing gap between exports and imports due to the decline of the former and the substantial increase in the latter. During the calendar year of 1948, shipments of American goods, totaling \$12,614 million, were 18 percent smaller than the record volume of 1947, while imports, reaching a record high of \$7,070 million, were 23 percent above the 1947 level. The deficit of foreign nations in their trade with the United States was reduced to less than \$5,600 million for the year as compared with \$9,600 million the year before. This trend was due, on the one hand, to partial recovery abroad, which made possible an expansion of exports, and, on the other, to numerous exchange and import restrictions imposed by foreign countries in order to reduce the large deficit in their balance of payments with the United States.

The gap between imports from and exports to this country was made up in part by gold shipments to the United States, which totaled approximately \$1,500 million during the year, but mainly through American loans and grants under the European Recovery Program (ERP) and special arrangements. The largest declines in foreign purchases here were in consumer goods, while special efforts were made to maintain the high level of imports of industrial and agricultural machinery, fuel and raw materials.

Shipments to virtually all the major trading areas declined substantially from the 1947 level, with the steepest drop recorded in the case of Eastern European countries due largely to the tightening of export controls after Mar. 1, 1948. Agreements were concluded with a number of nations providing for mutual tariff reductions under the Trade Agreements Program, which was extended for one year by the 80th Congress of the United States.

—SAMUEL S. SHIPMAN

CALIFORNIA. A Pacific State. Area: 158,693 sq. mi. Population: (July 1, 1948) 10,031,000, compared with (1940 census) 6,907,387. Chief cities: Sacramento (capital), 105,958 inhabitants in 1940; Los Angeles, 1,504,277. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Legislation. The California Legislature convened in its first annual budget session March 1 and adjourned March 27 after considering a record budget for the ensuing year of \$919,943,000. Included in appropriations was \$50,000,000 from the general fund for additional school buildings in needy school districts. The automobile tax of 1½ percent of value was raised to 2 percent, the proceeds to be distributed among cities and counties of the State.

Other enactments included establishment of daylight saving time for one year to save power and water; a law to protect the public from financially irresponsible motorists; and provision for additional child care and migratory farm labor facilities. In the November election, the people adopted a proposal designating the lieutenant governor-elect as successor to the governor-elect in case of death or disability.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$860,576,000; total expenditure, \$691,699,000.

Elections. Truman carried the State and won the 25 electoral votes in a close contest with Dewey. Running behind his expected strength, Wallace received less than five percent of the popular vote.

There were no Statewide races for Senatorial or State office. In contests for House seats, Democrats won 10 and Republicans 13, a gain of one for the Democrats. The California first and tenth Congressional districts were the only ones in the country in 1948 in which incumbent Democrats were replaced by Republicans.

Officers, 1948. Governor, Earl Warren; Lieut. Governor, Goodwin J. Knight; Secretary of State, Frank M. Jordan; Attorney General, Fred N. Howser; State Treasurer, Charles C. Johnson; State Controller, Thomas H. Kuchel; Director of Finance, James S. Dean.

CAMEROONS, British. A United Nations Trust Territory in British West Africa, administered by Great Britain. Area: 34,081 square miles. Population (1944 est.) 925,800. On lowland plantations, palm kernels, cacao, rubber, fruits, and nuts are grown. Uplands produce mahogany and other timber. Foreign Trade (1946): imports £112,729; exports \$17,321. Principal exports were 4,583 tons of bananas, 1,597 tons of cocoa, and 601 tons of palm kernels. Finance (1945-46 est.): revenue £35,551; expenditure £201,230. The Trust Territory is administered as a part of Nigeria.

CAMEROONS, French. A Trust Territory of the United Nations in western Africa, administered by France. Area: 166,489 square miles. Native population (1946): 2,816,000; European 3,981, of whom 2,848 were French. Capital: Yaoundé (1946 pop. 50,000). Education (1945): 313 schools with 43,023 pupils. Livestock (Jan. 1, 1946): 1 million oxen and 25,000 asses. Trade (1946): imports 1,005 million francs; exports 1,005 million francs. The principal exports were: cocoa (33,196 tons); palm kernels (26,199 tons); timber (42,831 tons); coffee (5,898 tons); bananas (4,378 tons); and rubber (3,987 tons).

Government. General budget estimates (1944): revenue 349,942,000 francs; expenditure 288,677,000 francs (franc averaged U.S.\$0.0084 in 1946-47). A High Commissioner assisted by an elected representative Assembly heads the administration. The Territory is represented by 2 deputies in the National Assembly, 3 councilors in the Council of the Republic, and 5 delegates in the French Union. High Commissioner: René Hoffherr.

CANADA. A Dominion of the British Commonwealth of Nations, comprising nine provinces and two territories. (See separate articles on the provinces and territories.) Capital: Ottawa.

Area and Population. The total land area of Canada amounts to 3,462,103 square miles. In the

(without suburbs), 903,007; Toronto, 667,457; Vancouver, 275,353; Winnipeg, 221,960; Hamilton, 166,367; Ottawa (capital), 154,951; Quebec, 150,757; Windsor, 105,311. Immigration, June 1, 1947, to June 1, 1948, 90,000 of the white population in 1941, 5,715,904 were of British origin (English 2,968,402, Scottish 1,403,974, Irish 1,267,702, other 75,826) and 3,483,038 of French origin.

Education and Religion. Elementary and secondary education is almost entirely state-controlled in all provinces except Quebec, where most schools are sectarian. Canada has 6 state universities and 12 independent universities. School enrollment in 1945: provincially controlled schools, 2,130,175; privately-controlled schools, 130,594; universities and colleges, 110,892; Dominion Indian schools (1946), 18,805.

The principal religious groups in Canada at the 1941 census were: Roman Catholics, 4,800,895; United Church, 2,204,875; Anglicans, 1,751,188; Presbyterians, 899,147; Baptists, 483,592, and Lutherans, 401,153.

Production. Manufacturing had the major place in the economy of Canada, with a gross value of products of more than \$8,000 million. Iron and its products led the list, with vegetable products second, and wood and paper products third. Index of industrial activity in August (1937 = 100) was 152. Index of industrial employment in October (1926 = 100), 202.6.

Final estimates (Nov. 1948) for grain production: wheat, 393,300,000 bu.; oats, 357,703,000 bu.; barley, 154,603,000 bu. Index of farm purchasing power, June 1, 1947 - June 1, 1948 (1935-39 = 100), 205. Leading minerals: gold, copper, nickel, lead, zinc, asbestos.

Foreign Trade. The 1947 figures for foreign trade were as follows: total, \$5,385,700,000 (highest on record); imports \$2,580,000,000; exports, \$2,808,000,000. Favorable balance, all countries, \$237,000,000; debit balance with the United States, \$918,100,000; favorable balance with the United Kingdom, \$561,000,000; principal export, wheat and flour. In September, 1948, trade was running above the 1947 figure and the deficit with the United States was diminishing.

Transportation. Total single track mileage (1946), 42,335; air passengers carried, 508,907. Seagoing vessels entering Canadian ports in 1946, 30,367,000 tons; coastal vessels, 7,455,559,014 tons.

Finance. The fiscal year ending Mar. 31, 1948 showed a surplus of \$670,000,000. Total revenues for 1948-49 were estimated at \$2,644,000,000, with a surplus of \$489,000,000 over estimated expenditures. The gross unmatured funded debt on Mar. 31, 1948, was \$15,957,381,000.

Government. Executive power is exercised in the King's name by the Governor General of Canada, acting through a responsible ministry. Legislative power rests in a Parliament of two houses; a Senate of 96 members appointed for life by the Governor General on advice of the Cabinet, and a House of Commons of 245 members elected for five years (unless the Government is dissolved earlier) by popular universal suffrage. The nine Provinces have a large measure of local autonomy, with a separate parliament and administration for each. Governor General in 1948, Viscount Alexander (installed Apr. 12, 1946). Party in power, Liberal. Prime Minister (to Nov. 15, 1948), William L. Mackenzie King; (after Nov. 15), Louis St. Laurent. Secretary of State for External Affairs (to Sept. 10), Louis St. Laurent; (after Sept. 10), Lester B. Pearson.

Provinces and Territories	Land area sq. miles	Population 1941	1948 est.
Prince Edward Island . . .	2,184	95,047	93,000
Nova Scotia . . .	20,743	577,962	635,000
New Brunswick . . .	27,473	457,401	503,000
Quebec . . .	523,860	3,331,882	3,792,000
Ontario . . .	363,282	3,787,655	4,297,000
Manitoba . . .	219,723	720,744	757,000
Saskatchewan . . .	237,975	395,992	854,000
Alberta . . .	248,800	706,169	846,000
British Columbia . . .	359,279	817,861	1,082,000
Yukon Territory . . .	205,340	4,914	8,000
Northwest Territory . . .	1,253,438	12,028	16,000
Canada . . .	3,462,103	11,506,655	12,883,000

accompanying table are shown the land areas and the populations (1941 census and 1948 estimate), by provinces and territories, together with the totals for Canada.

Chief cities (pop., 1941 census): Montreal

Events, 1948. William Lyon MacKenzie King, Liberal Prime Minister of Canada 1921-26; 1926-30; 1935-1948, who had served his country under Queen Victoria and four kings, gave up his post to Liberal Leader Louis St. Laurent on November 15. King announced in the spring that his office was soon to be surrendered. It was obvious that the 73-year-old Prime Minister felt the effects of the strenuous years, but he was in good health when he reached Paris on September 20 for the General Assembly of the United Nations.

When King went to London for the meeting of Dominion Prime Ministers on October 11-22, he became too ill to attend, and St. Laurent, Acting Prime Minister, left Ottawa for London at once to serve as King's deputy. King received the various Prime Ministers in his hotel suite while the conference was in session, and on October 25 the Earl of Athlone, Chancellor of the University of London, went to his suite to award him the University's degree of Doctor of Laws. King returned to Ottawa on November 7 with St. Laurent, improved in health and ready for the surrender of the premiership to his Liberal colleague and deputy a few days later.

Canada Abroad. Canada was active in the conference of Dominion Prime Ministers, although the MacKenzie King tradition was one of extremely loose Commonwealth bonds. St. Laurent was one of the three heads of the old Dominions (Canada, Australia, and New Zealand) who invited representatives of the Irish Government to come to Chequers on October 17 to discuss the details of Eire's contemplated severance of Commonwealth ties.

Canadian Transport Minister Chevrier, leader of the Canadian delegation to the UN General Assembly in the autumn, was one of the more outspoken critics of Soviet policy with respect to the Berlin crisis. On November 11 he spoke of the Soviet Government as "deliberately twisting facts" and "adding fuel to the flame." Canada itself, eager to be enrolled on the side of peace, on November 15 offered the Security Council, through General A. G. L. McNaughton, a plan for an armistice and negotiated peace in Palestine.

John Erskine Read was elected one of the judges on the International Court of Justice by the Security Council and the General Assembly in October. Ambassador Dana Wilgress was elected chairman at the meeting of the countries participating in the Geneva Agreement on Tariffs and Trade in the session of August 17 at Geneva, Switzerland.

Relations with Britain. Canadian-British conversations in 1948 were largely concerned with the trade problem. At the beginning of the year the Anglo-Canadian trade agreement of 1947 went into effect, with the wheat agreement continued and Britain paying higher prices for Canadian bacon, beef, cheese, and eggs. The resulting deficit was met partly by drawing on the Canadian credit to Britain and partly by paying Canada in American dollars, of which there was at the opening of the year an acute shortage.

Although Britain agreed to take all Canada's surplus of the four agricultural commodities for 1949, the terms of payment were arranged only for three months ahead. By the middle of March Canada heard with some dismay British Minister of Food Strachey's statement that Britain could not continue the existing rate of spending on Canadian food. The second year of sales of Canadian wheat to Britain under the Anglo-Canadian wheat agreement passed satisfactorily, however, and British

Food Minister Strachey told the press that Canada would remain the chief wheat supplier in 1948 and 1949.

There was no doubt that financial and economic relations between the two countries were deteriorating as the summer passed. Sir Stafford Cripps, British Chancellor of the Exchequer, left London on September 19 with a party of experts from the Treasury and the Board of Trade on a mission to Ottawa. Two days later the talks were opened with a Cabinet committee consisting of Acting Prime Minister St. Laurent, Minister of Trade and Commerce Howe, Minister of Agriculture Gardiner, Secretary of State for External Affairs Pearson, and Minister of National Revenue McCann.

By September 24 the talks were over. The official statement said that a continuing committee of representatives of the two countries would be set up to meet regularly in Ottawa and London for the full exchange of information. Canadians hoped that the further statement that both governments would do everything possible to avoid any sudden change in the pattern of trade meant that there would be no further sudden cancellations of contracts such as the British found necessary when their dollar position grew worse. Sir Stafford said repeatedly that food contracts between Canada and Britain would not be affected immediately, but he admitted that ultimately a reduction in the amount of food bought by Britain from Canada would be unavoidable.

Relations with the United States. Canadian discussions with the United States centered on the dollar shortage and on defense. Canada entered the year with the most acute shortage of American dollars in its history and fresh limitations on the importation of American goods except for industrial necessities. On January 6 Finance Minister Douglas Abbott left Ottawa for Washington to discuss financial matters with the United States and to complete arrangements for an Export-Import Bank credit of \$300,000,000 which had been promised by the United States in the autumn.

The loan agreement was signed in Washington on January 8. It was stipulated in the agreement that half of the funds were to go for the purchase of United States machinery and equipment and the other half for essential industrial raw materials. By October the situation was improved, and Abbott announced that Canada would not need to draw further on the Export-Import Bank credit, of which only \$140,000,000 had been used. By this time Canadian foreign exchange reserves had reached \$742,000,000, as compared with the low point of \$461,000,000 touched in December, 1947.

Canada's efforts to sell more in the United States had a good measure of success in 1948, but the barriers of American tariffs and subsidies still operated against Canada. Finance Minister Abbott told the New England Council in Boston in November that unless Canada's annual sales of about \$1,000 million to the United States could be brought closer to Canada's annual purchases of about \$2,000 million Canada would have to take further restrictive measures. Nevertheless American pressure forced Canada to stop sales of potatoes in the United States after the end of November.

Canadian-American Defense. Common defense plans were pushed in the last part of the year. American Secretary of Defense James Forrestal was in Ottawa on August 16 for a meeting with the Defense Committee of the Canadian Cabinet, at which Gen. A. G. L. McNaughton, head of the Canadian-United States Joint Defense Committee, was present. Forrestal and Canadian Defense Min-

ister Brooke Claxton went together to Ogdensburg on August 17 to commemorate the 8-year-old Roosevelt-King Ogdensburg declaration which brought their governments into a permanent joint defense agreement.

In the middle of November Canadian Minister of Trade and Commerce C. D. Howe went to Washington, ostensibly to discuss standardization in arms, a "common pattern" in aircraft, and American orders for military equipment in Canada. It was at this time that Canada, the United States, and Britain signed in Washington an agreement to standardize the threads in nuts, bolts, and screws.

Prime Minister St. Laurent was known to be sympathetic with a North Atlantic Defense pact. A Canadian representative was present when agreement on such a pact was reached in London on November 19 by delegates of the five Western Union powers and the United States. On November 25 Gen. McNaughton, Canada's permanent delegate to the UN Security Council as well as head of the Canadian-United States Joint Defense Committee, issued a 29-page statement in which he said that Canada gave its full support to the idea of a North Atlantic Alliance.

The Department of National Defense took an unprecedented step on November 25 in announcing that a Canadian naval force had been severely mauled by United States submarines of the newest type, during a two-day test at sea. There was no secrecy about the holding of the tests, which were announced earlier as occurring off the Nova Scotia coast on November 17 and 18. The Defense Department announced that similar tests had been held earlier off Newfoundland, with like results. Canada's existing fleet was designed almost wholly for escort purposes.

Canada and ECA. In June Canada became the second-largest supplier of goods authorized for purchase under the Marshall Plan. Two representatives of the Bank of Canada and an official of the Department of External Affairs went to Washington in April to get first-hand information about the arrangements then in progress. Canadian authorizations included wheat, flour, bacon, cheese, beef, lead, copper, aluminum, zinc, and wood pulp. Canadian authorizations to October 15 were \$327,900,000.

Newfoundland's Status. In the autumn steps were taken in Ottawa to arrange the terms of Newfoundland's entry into the Dominion of Canada as the tenth province. In a referendum held on July 22 a majority of Newfoundland's voters preferred entry into the Canadian Confederation to the alternative constitutional choices. On October 6 the Newfoundland delegates sent to Ottawa to perfect the terms of union, which must then be submitted to the Canadian Parliament, held their first meeting with the Canadian delegates, to which they were welcomed by Acting Prime Minister St. Laurent.

At this time Premier Duplessis of Quebec protested, as he had done earlier, against the inclusion of Newfoundland without the consent of the Province of Quebec. Duplessis criticized the financial burdens to be accepted by the Dominion Government, and emphasized particularly Quebec's dispute with Newfoundland over the boundaries of Labrador, about which he believed that Quebec could sue.

In the course of the prolonged discussions at Ottawa the Newfoundland representatives appear to have asked for expenditures for services which would add materially to the Ottawa Treasury's estimate of \$15 million as the net cost to Canada. The negotiations were secret, however, and the

public was told little about the "many subjects" discussed.

Party Conventions. After the end in midsummer of one of the less eventful sessions of Parliament, two of the political parties, the Liberals and the Co-operative Commonwealth Federation, held their respective national conventions. Louis St. Laurent, at that time Minister for External Affairs, won the leadership of the Liberal Party by a large majority after only one vote. His election had the emphatic approval of the outgoing leader, Prime Minister King, who had held the position exactly 29 years. The platform adopted by the Liberal Party was in the main consistent with existing Government policy.

Later in August the CCF (Co-operative Commonwealth Federation) held its biennial convention in Winnipeg. The delegates had sharp differences of opinion over public ownership, particularly the nationalizing of the chartered (commercial) banks, but in the end banks, railways, coal, primary steel, meat packing, farm implement, fertilizer, and fuel and power industries were included in the nationalization program. Former leader and Party President M. J. Colwell was given a further two-year term.

The Progressive Conservative convention was opened in Ottawa on September 30. John Bracken, retiring leader, was succeeded by Premier George Drew of Ontario, whose immediate task was now to resign his premiership and seek a seat in the House of Commons. The party opposed further centralization in Ottawa and supported a tolerant attitude towards responsible business enterprise. All parties were actively preparing for the general election due within a few months.

Cabinet changes in 1948 included the appointment in September of Lester B. Pearson, Ambassador in Washington from 1945 to 1946, as Secretary of State for External Affairs in place of St. Laurent, who served as Acting Prime Minister and Minister of Justice for two months before he replaced King as Prime Minister in November; Stuart Garson, former premier of Manitoba, as Justice Minister, and Robert Winters of Nova Scotia as Minister of Reconstruction and Supply. In provincial elections the National Union Party won in Quebec, the Liberal Party in New Brunswick, Social Credit in Alberta, and Progressive Conservatives in the province of Ontario.

Internal Economy. Price ceilings were reimposed on meat and butter in January, after the public learned the news of the higher prices to be paid by Britain for Canadian agricultural products and began to push up prices accordingly. Price ceilings were reimposed on bread and hard wheat flour on August 19 at the levels in effect July 31, when domestic wheat was raised from \$1.55 to \$2 a bushel and a Government subsidy of .45 cents a bushel was announced for wheat flour in order to prevent an advance in the price of bread. On October 22 rent ceilings were raised but the controls were extended.

Improvement in the supply of American-produced consumer goods became possible in the latter part of the year. At the beginning of August the 25 percent excise tax announced late in 1947 for electric refrigerators, vacuum cleaners, automobiles, radios, and other mechanical products was removed. On October 18 Finance Minister Abbott announced a seasonal lifting of restrictions on the importation of fruits and vegetables, because of the steady improvement of the situation with respect to supplies of American dollars. By November 1 the fruit terminals offered a welcome sight

to Canadians, and fruit and vegetable prices were falling.

Ontario's power shortage became critical in November, and morning and afternoon blackouts were ordered in order to save electricity. As inconveniences increased, controversy over the cause of shortage became acrimonious. Some of it centered around the conspicuous political figure of George Drew, former premier of Ontario and now leader of the Progressive Conservatives. Inactivity with respect to power was alleged by his opponents. The September, 1948, number of the *Canadian Statistical Review*, published by the Dominion Bureau of Statistics, attributed the shortage to increased use of power and low rainfall in 1948.

Immigration. Canada's immigration plan, which included provision for displaced persons, was continued in 1948. Resources Minister James Glen announced in March that the plans made in 1948 would result in 100,000 immigrants for Canada. British immigrants to the number of 12,000 were expected to cross on the austerity liner *Aquitania*, which was to make 11 trips for that purpose. Netherlands lines planned to bring 10,000 Dutch farmers. One thousand displaced persons from temporary camps in Germany sailed in April. In September Humphrey Mitchell, Minister of Labor, informed the General Council of the International Refugee Organization at Geneva that 30,000 refugees and displaced persons had been assimilated in Canada since the end of the war.

As the year progressed the plans broadened. In September Canada placed French citizens on the same footing as those of the United States and the favored Empire countries. An employment service was opened in London to advise intending immigrants on the work available in Canada in the occupations for which they were fitted.

—ALZADA COMSTOCK

CANADIAN LITERATURE. The quantity of output of Canadian publishing houses in 1948 was well up to recent levels but it was a thin year for both fiction and poetry written in English, though several noteworthy works in biography and history appeared. By comparison the novels published by French-language writers of Quebec province stood out more prominently than usual. *Les Plouffes*, a second novel by Roger Lemelin, brought new laurels to the young French-Canadian whose earlier work, *Au pied de la pente douce* (1944), now translated into English as *The Town Below* was awarded a prize by the Académie Française and earned him a Guggenheim Fellowship. *Les Plouffes* has already been tentatively hailed by literary critics of Quebec as the greatest novel in French-Canadian literature.

Hugh MacLennan, one of Canada's few full-time professional novelists, chose for the theme of his third novel, *The Precipice*, the sharp contrast between the tempo and mores of New York City and those of a tranquil Canadian town on the border of Lake Ontario. This novel was favorably reviewed by several American critics. Mazo de la Roche, another professional, who startled the Canadian writing world in 1927 by winning the Atlantic Monthly prize with *Jalna*, continued the long saga of the Whiteoaks family with *Mary Wakefield*. Morley Callaghan, a Canadian who owes something to the Hemingway tradition, broke a long silence with *The Varsity Story*, a fictional study of the University of Toronto.

Philip Child's *The Village of Souls* is a tale of New France, while Olive Knox in *Red River Shadows* again exemplifies the preference of Canadian

novelists for historic settings—her romance goes back to the early days of the Selkirk Settlement. *The Aging Nymph* is a light-hearted war story of the Canadians in Italy: the author, A. J. Elliott served there during the Second Great War as a member of the Air Force. *The Rich Man* by Henry Kreisel is another first novel and has its setting in Vienna. Kreisel is a refugee from the Nazis now on the staff of a Canadian prairie university.

In poetry there were several collections by well-known writers, notably *The Strait of Anian* by Earle Birney, *The Rocking Chair and Other Poems* by A. M. Klein, who here turns aside from his self-avowed Jewishness to picture the French-Canadian scene, and *All Fools' Day and Other Poems* by Audrey Alexandra Brown. A new voice is that of Douglas Le Pan, a graduate of Oxford, whose work is sometimes in the vein of T. S. Eliot, and whose treatment of the Canadian scene in *The Wounded Prince* has won encomiums on both sides of the Atlantic.

The best biographies were of non-Canadian subjects. *A Study of Goethe* by Barker Fairley, *Matthew Arnold* by E. K. Brown, and a life of Rupert Brooke, entitled *Red Wine of Youth* by the novelist and poet Arthur Stringer. A lively memoir of the great Canadian editor, J. W. Duffie was written by George V. Ferguson, editor of the *Montreal Star*. Another book of keen interest to journalists was (CP) *The Story of The Canadian Press* by M. E. Nichols, for many years head of the *Vancouver Province*.

Vincent Massey, one-time Canadian Minister to Washington and long Canada's High Commissioner at London, explored national concepts in *On Being Canadian*. *The Owl Pen* by Kenneth Wells is a sort of Canadian *The Egg and I*. Paul Hiebert won the Stephen Leacock award for humor with *Sarah Binks*, a rich satire on a rural songstress. In the first volume of a trilogy to be known as *Canada and the Second Great War* Col. C. P. Stacey provided an authentic chronicle of Canada's Army, 1939-45. Thomas H. Raddall, Canada's leading historical novelist, turned to straight history to write *Halifax, Warden of the North* in anticipation of the bicentenary of the founding of the Nova Scotia seaport in 1749.

French-Canadian works of note, in addition to *Les Plouffes*, included *Au delà des Visages*, by André Giroux, a philosophical inquiry into murder; *La Minuit* by Felix-Antoine Savard, a poetic idyll of the Tadoussac country; *Circuit 29* by René Chicoine, one of the rare French-Canadian incursions into detective fiction; *Les Desirs et les Jours* by Robert Charbonneau, a book of poems; and *Rivages de l'Homme* by Alain Grandbois. Belles-lettres and criticism were strongly represented by works written by Roger Duhamel and Jean Bruchési.

Canadian letters suffered a severe loss on October 7th in the death of Pelham Edgar (see *NECROLOGY*), dean of Canadian literary critics.

—WILFRID EGGLESTON

CANARY ISLANDS. An archipelago off the coast of Rio de Oro in northwest Africa, comprising two provinces of Spain: (1) Las Palmas (the islands of Gran Canaria, Lanzarote, Fuerteventura, and the islets of Alegranza, Roque del Este, Roque del Oeste, Graciosa, Montaña Clara, and Lobos), area, 1,565 square miles; population (July 1, 1947), 375,744; capital, Las Palmas (157,548 inhabitants) on Gran Canaria. (2) Santa Cruz de Tenerife (the islands of Tenerife, Palma, Gomera, and Hierro), area, 1,329 square miles; population (July 1, 1947), 401,283; capital, Santa Cruz de Tenerife (79,928

inhabitants). Las Palmas is an important shipping and tourist center. Coffee, corn, millet, sugar cane, manioc, fruits, vegetables, tobacco, cotton, indigo, and castor oil are produced.

CANTON ISLAND. An atoll of the Phoenix group (3° to 5°S. and 170° to 175°W.) in the central Pacific, which with Enderbury Island of the same group, is under the joint control of Great Britain and the United States (Anglo-U.S.A. Pact of Aug. 10, 1938, and Notes of Apr. 6, 1939). Canton is 29 miles in circumference and has a land mass of from 50 to 600 yards wide which encloses a lagoon 9 miles in diameter. Enderbury is 2.5 miles long and 1 mile wide. Canton is an important port of call for the transpacific air service between Honolulu and Auckland, New Zealand.

CAPE VERDE ISLANDS. A dependency of Portugal, 320 miles west of Cape Verde, French West Africa. The islands comprise the Barlavento (windward) group (São Vicente, Santo Antão, São Nicolau, Santa Luzia, Sal, Boavista, Branco, and Raso) and the Sotavento (leeward) group (Santiago, Maio, Fogo, Brava, Rei, and Rombo). Total area, 1,557 square miles; population (Dec. 1, 1940), 181,280. Capital, Praia (on Santiago), 6,188 inhabitants. Forte Grande, in São Vicente, is an important fueling station for ships. The chief products are castor oil, mustard, coffee, oranges, salt, brandy, and hides. Trade (1945): imports 149,546,000 escudos; exports 149,266,000 escudos. Finance (1946 est.): revenue 24,687,000 escudos; expenditure 22,249,000 escudos. Public debt in 1946 totaled 5,220,000 escudos (25,065 escudos equals U.S.\$).

CARIBBEAN COMMISSION. The President on Mar. 4, 1948, accepted on behalf of the United States Government the Agreement for the Establishment of the Caribbean Commission pursuant to Public Law 431, 80th Congress. Ratification by the four member governments (France, the Netherlands, the United Kingdom, and the United States) was completed Aug. 6, 1948. Thus, the Caribbean Commission was formally established as an advisory and consultative body on common social and economic matters to the four member governments and the 15 non-self-governing territories of the Caribbean under their administration. Approximately 5.5 million people live in the region covered by the Commission's activities: Martinique, Guadeloupe, French Guiana (France); Curaçao, Aruba, Surinam (Netherlands); Bahamas, Barbados, British Guiana, British Honduras, Jamaica, Leeward Islands, Trinidad, Windward Islands (United Kingdom); Puerto Rico, Virgin Islands (United States).

The 16-member Commission is assisted by two auxiliary bodies: the Caribbean Research Council and the West Indian Conference. The Central Secretariat, located at Port-of-Spain, Trinidad, continued to service the Commission and its auxiliary bodies. The Commission held two meetings during the year—the Sixth at San Juan, Puerto Rico and the Seventh at Guadeloupe.

Its major undertaking in 1948 was the completion of the first comprehensive survey of existing and potential industries which has been made on a region-wide basis. A panel of four experts (one from each National Section) collected basic factual data on industries, including such items as production records; kind and source of raw materials; financial procedures; availability of fuel, power, labor, transportation, markets; and communications. "Industrial Development and Economic Produc-

tivity" formed the central theme of the Third Session of the West Indian Conference held in Guadeloupe, Dec. 1-14, 1948, with the survey as the basis of discussion.

The Commission inaugurated two devices designed to keep Caribbean peoples currently informed of advancements in scientific, technical, and social fields, to make them aware of the similarity of their problems, and the solutions to be found by coordinated effort. The first was the establishment, during 1948, of a *Monthly Bulletin* published in the four languages of the area. It is a systematic and continuing means of furnishing information on scientific, educational, social, and economic developments in, or relating to, the area. The second was the initiation of a weekly radio program in the four languages of the area to supply news on current social and economic events. The territorial governments furnish time on the air and commentators, free of charge; the Commission is responsible for collecting the material, and for the writing and editing of script.

The pressure of rapidly growing population on limited agricultural resources is one of the basic economic problems of the Caribbean area. The Commission completed a preliminary study of the movement of population in the Caribbean, including population growth, pressure, and major migratory movements. The survey will enable the Commission to ascertain the most fruitful line of further inquiry and coordinated governmental action through the agency of the Commission.

Realizing that the basis for regional action in achieving economic development depends upon a thorough knowledge of what research and research facilities exist, the Commission launched upon a survey of existing research institutions, projects, and personnel in the area. The results of this survey will form the nucleus of a permanent and active Research Information Service to be maintained by the Central Secretariat.

The Commission established a statistical unit in the Secretariat to collect, collate, analyze, and distribute data on such matters as trade, population trends, and other topics of general utility to governments and business enterprises.

Principal publications of the Commission in 1948 were: *Report of the Caribbean Commission to the Governments of the French Republic, the Kingdom of the Netherlands, the United Kingdom, the United States of America, for the year 1947*; and *Industrial Development of Puerto Rico and the Virgin Islands (Report of the United States Section)*.

The Co-Chairmen of the Commission in 1948 were as follows: France—Pierre Pelieu; Netherlands—Dr. J. C. Kielstra; United Kingdom—Sir Hubert Rance (succeeded S. A. Hammond who had been Acting Co-Chairman); and United States—Ward M. Canaday (appointed to fill vacancy created by death of Charles W. Thussig.)

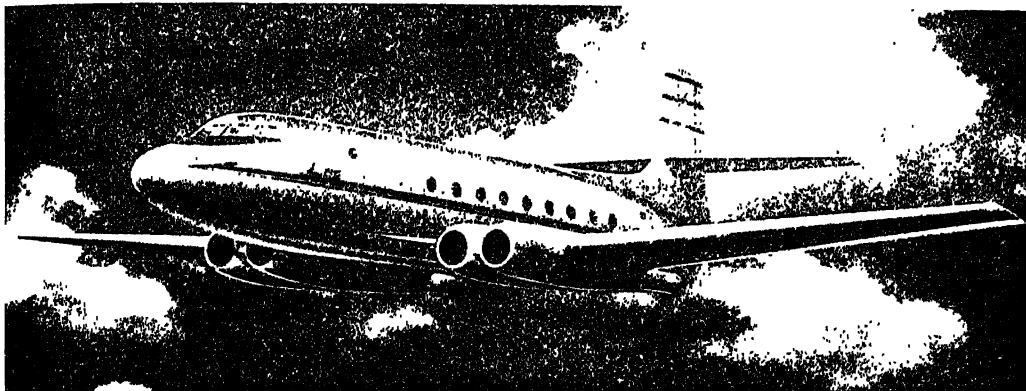
—FRANCES McREYNOLDS

CARNEGIE ENDOWMENTS. Established by Andrew Carnegie between 1896-1911, the organizations listed below are devoted to the furtherance of peace, education, knowledge and research.

Carnegie Corporation of New York. Established by Andrew Carnegie in 1911 for the advancement and diffusion of knowledge and understanding among the people of the United States and the British Dominions and Colonies, this Corporation has a basic endowment of more than \$135,000,000, of which \$12,000,000 is applicable in the British Dominions and Colonies. Its income only is subject to appropriation by the Trustees.

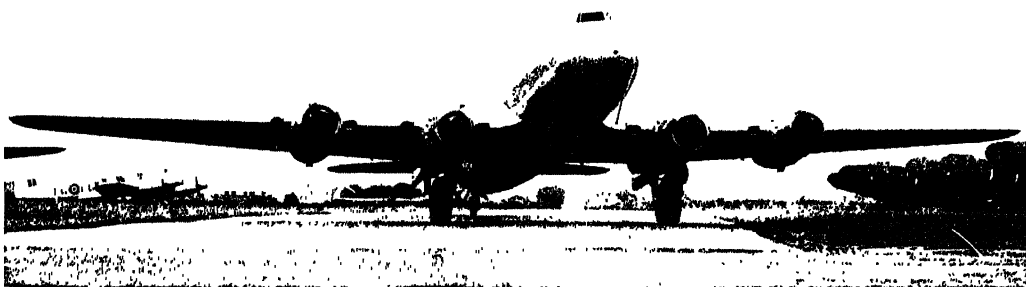


MARTIN 2-0-2 twin-engine airliner, built by the Glenn L. Martin Company, shown on one of its test flights.



Courtesy A. V. Roe Canada Limited

JET AIRLINER. The Avro type C. 102, designed and built by A. V. Roe Canada Limited, is a medium range transport.



British Information Services

HERMES, built by Handley-Page in Great Britain for use by British airlines. This plane has a wing-span of 113 feet, a length of 81 feet 6 inches, a gross weight of 75,000 lb., and a top speed of 355 miles per hour.



CANADAIR DC-4M-2, built in Canada under license from Douglas, this plane is powered with four Merlin engines built by Rolls-Royce.

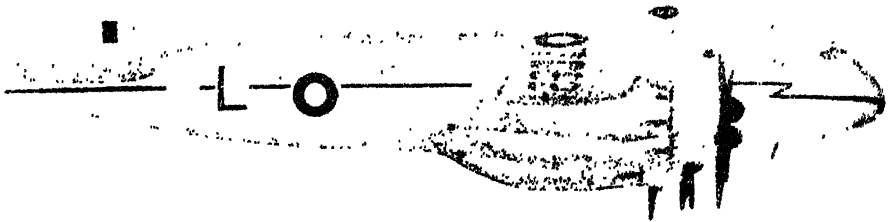
Photograph by Warren D. Shipp



VAMPIRE, the de Havilland jet driven interceptor fighter (de Havilland Goblin turbine) can speed over 500 m.p.h.



GLOSTER-METEOR jet aircraft climbing at speed. The plane is fitted with two Beryl turbojets, made by Metropolitan Vickers.

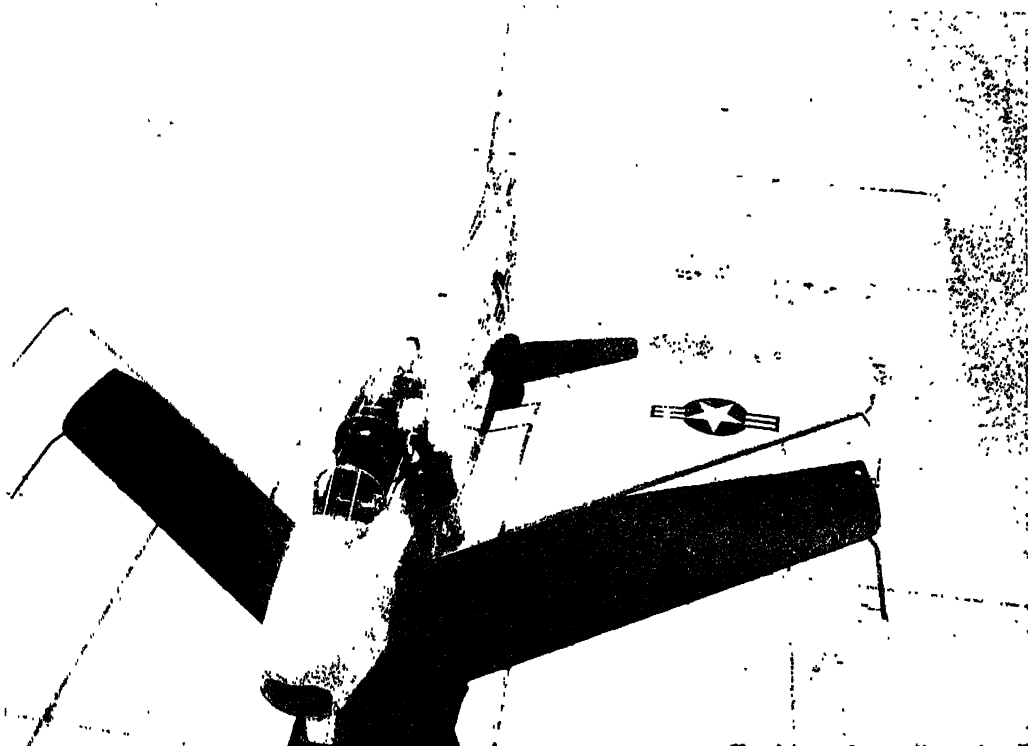


HANDLEY-PAGE HASTINGS, one of the new Royal Air Force transport aircraft, on its way to join the Berlin airlift.

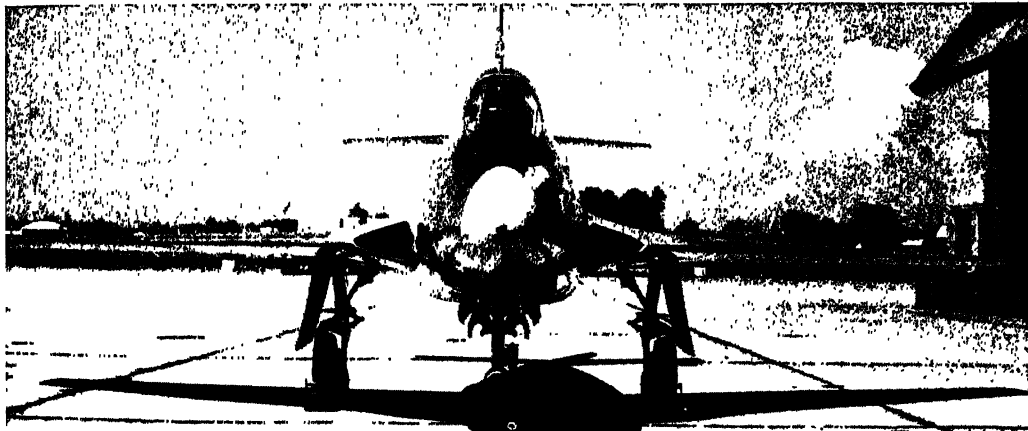


AIRLIFT. German workmen loading a Hastings plane with coal to be flown into Berlin on the airlift.

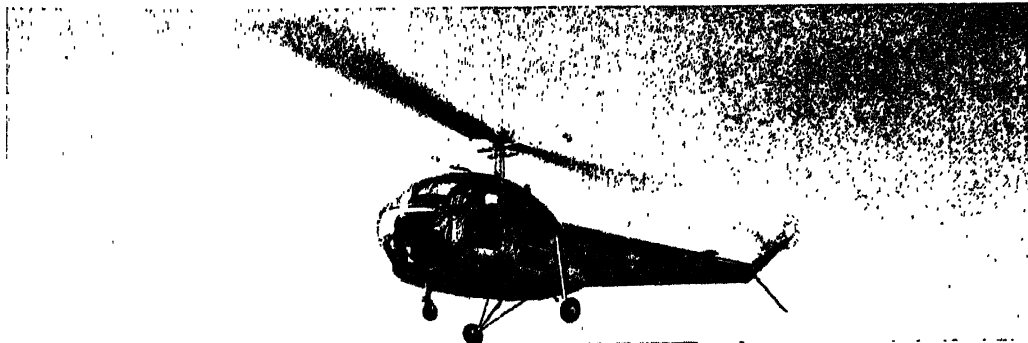
Photos from British Information Service

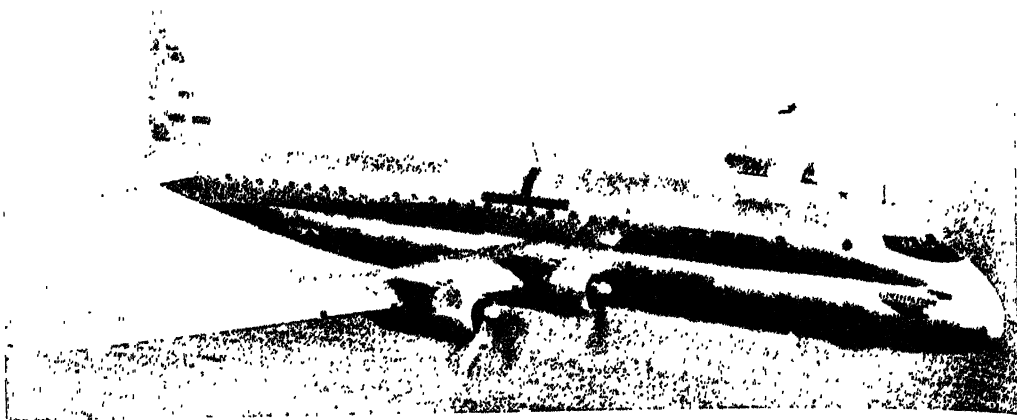


NORTHROP F-86A (above) piloted by Major R. L. Johnson, Sept. 15, 1948, made a world record of 640.891 m.p.h.
McDONNELL XF-88 twin-jet penetration fighter (shown below) powered by two axial-flow turbojet engines.



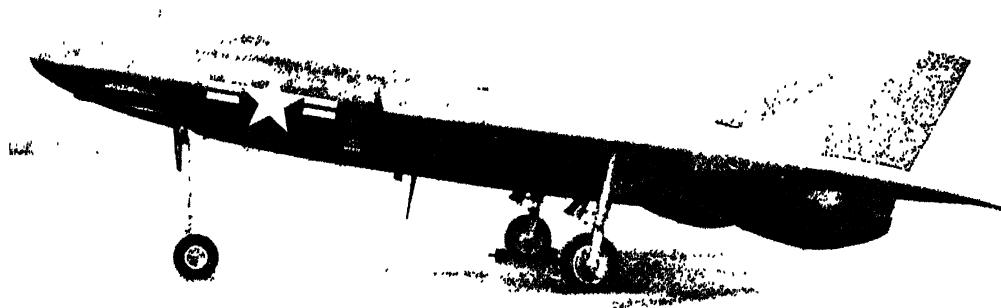
U.S.A.F. XH-15 two-place liaison helicopter, designed and built by Bell Aircraft Corporation, shown on a test flight.



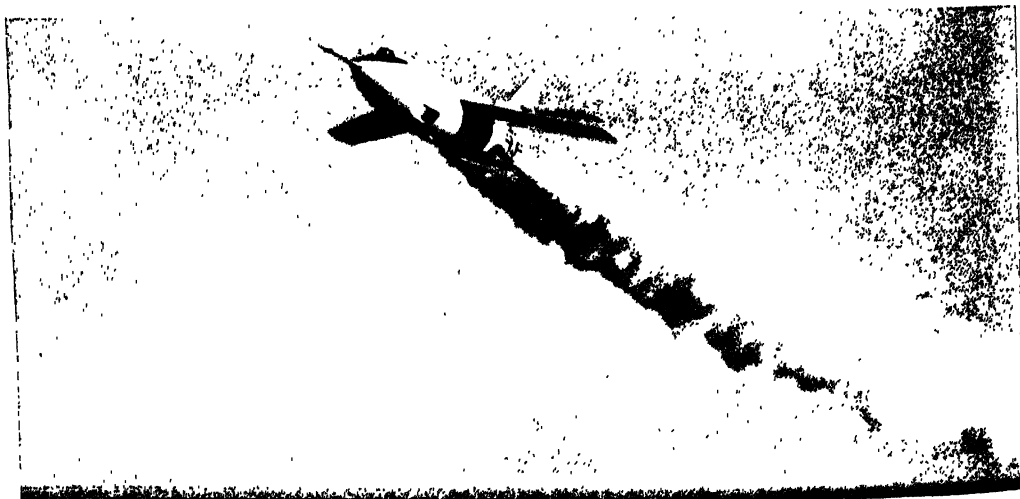


Official U.S. Navy Photo

CONSTITUTION, the new 92-ton, 180 passenger, airliner in flight. It was built by Lockheed for the U.S. Navy.



SWEPT-WING JET PLANE, a U.S. Navy twin-jet fighter designed for carrier operation, capable of over 600 m.p.h.



SKYROCKET, the U.S. Navy's lance-like Douglas built aircraft designed to explore high speeds and altitudes.

During the year ended Sept. 30, 1948, the Corporation appropriated \$8,850,000 for other Carnegie agencies, colleges and universities, education in international affairs, the social sciences, the advancement of teaching, and for various other purposes.

The Trustees of the Corporation are: Thomas S. Arbuthnot, W. Randolph Burgess, Vannevar Bush, Oliver C. Carmichael, Charles Dollard, Morris Hadley, Devorcux C. Josephs, Nicholas Kelley, Russell Leffingwell, George C. Marshall, Margaret Carnegie Miller, Frederick Osborn, Arthur W. Page, Elihu Root, Jr., and Leroy A. Wilson.

The officers of administration are: President, Charles Dollard; Secretary, Robert M. Lester; Treasurer, C. Herbert Lee. Office: 522 Fifth Ave., New York 18, N.Y.

Carnegie Endowment for International Peace. Founded by Andrew Carnegie in 1910, the Endowment consists of a trust fund of \$10,000,000, the revenue of which is to be administered to hasten the abolition of international war.

A special library containing 75,000 volumes on all aspects of public international relations is maintained in Washington. During the fiscal year ended June 30, 1948, the Endowment's income amounted to \$795,328, which included grants of \$61,362 from the Carnegie Corporation of New York and \$3,850 from the Rockefeller Foundation. During this period the Endowment expended \$508,543 which included expenditures from balances brought forward from previous years.

Chairman of the Board of Trustees, John Foster Dulles; Vice-Chairman, John W. Davis; President, Alger Hiss (on leave); Acting President, James T. Shotwell. President's office: 522 Fifth Ave., New York 18, N.Y. Administrative office: 405 West 117th St., New York 27, N.Y. Washington Branch: 700 Jackson Place NW, Washington 6, D.C. Paris Branch: 173 Blvd. Saint-Germain, Paris VI. The 28 Trustees will hold their annual meeting in New York City, May 5, 1949, and their semi-annual meeting, Dec. 12, 1949, in New York City.

Carnegie Foundation for the Advancement of Teaching. The A foundation established in 1905 by Andrew Carnegie, who gave an endowment of \$10,000,000 for paying retiring allowances and widows' pensions in the United States, Canada, and Newfoundland, and for various other purposes in the field of higher education. Incorporated by Act of Congress in 1906, the Foundation received a further gift of \$5,000,000 from Mr. Carnegie and appropriations totaling \$13,250,000 for endowment and reserves from Carnegie Corporation of New York. On June 30, 1948, its resources amounted to \$14,871,380. In 1947-48, it disbursed \$1,869,843 for allowances and pensions. It awards no scholarships or aid of any kind. The Foundation's Annual Reports and Bulletins deal with many phases of higher education. In 1947 its principal activities concerned the educational appraisal of individuals through new-type tests and testing, particularly at the graduate level, and assisting in improvement of college teaching in the southern area through locally administered programs of grants-in-aid. Chairman of the Board of Trustees, Dr. Frank P. Graham; Vice Chairman, Dr. Robert G. Sproul; Secretary, Dr. James B. Conant. President of the Foundation, Oliver C. Carmichael; Secretary and Treasurer, Howard J. Savage. Offices: 522 Fifth Ave., New York 18, N.Y. The 25 Trustees will hold their 44th annual meeting on Nov. 16, 1949.

Carnegie Hero Fund. A Fund established in 1904 by Andrew Carnegie to help those who have risked their lives to an extraordinary degree to save hu-

man life, or to aid dependents of rescuers who have lost their lives in the performance of their deeds. The original endowment was \$5,000,000; the amount expended to Sept. 30, 1948, \$7,075,458. Dr. Thomas S. Arbuthnot, President; C. B. Ebersol, Assistant Secretary and Manager. Offices: 2307 Oliver Building, Pittsburgh 22, Pa.

Carnegie Institute. This institute, founded and endowed by Andrew Carnegie in 1896, houses under one roof the central branch of the Carnegie Library of Pittsburgh, with special departments covering technology, art, and music; the Department of Fine Arts, with a representative and growing collection of modern painting and sculpture, and with the distinction of having had the only annual international exhibition of paintings in the world, until this was necessarily suspended by World War II; the Carnegie Museum, covering the natural sciences and applied arts; and the Carnegie Music Hall, where from October to July free organ recitals are given twice a week. The Carnegie Institute building, a modification of the Italian Renaissance style, covers about four acres, and stands among the world's great works of architecture. Officers: President, James M. Bovard; Vice President, Roy A. Hunt; Secretary, Augustus K. Oliver; Treasurer, Thomas L. Orr. Headquarters: 4400 Forbes St., Pittsburgh 18, Pa.

Carnegie Institution of Washington. An organization founded in 1902 by Andrew Carnegie "to encourage in the broadest and most liberal manner investigation, research, and discovery, and the application of knowledge to the improvement of mankind." Income on investments for the year 1948 amounted approximately to \$1,500,000.

The Institution is now fully engaged in the conduct of programs in the physical sciences, the biological sciences, and historical research. Reassessment of objectives in the several divisions and departments was made at the end of the war period, during which the entire resources of the Institution including laboratory facilities and personnel had been made available to the United States Government. From this reassessment a carefully integrated program of investigation has resulted and is being vigorously pursued.

Walter S. Gifford is Chairman of the Board of Trustees. Other Trustees are: James F. Bell, Robert Woods Bliss, Lindsay Bradford, Frederic A. Delano, Homer L. Ferguson, W. Cameron Forbes, James Forrestal, Herbert Hoover, Frank B. Jewett, Ernest O. Lawrence, Alfred L. Loomis, Robert A. Lovett, Roswell Miller, Henry S. Morgan, Seeley G. Mudd, William I. Myers, Henning W. Prentiss, Jr., Elihu Root, Jr., Henry R. Shepley, Charles P. Taft, Juan T. Trippe, James W. Wadsworth, and Lewis H. Weed. President: Vannevar Bush. Headquarters: 1530 P St. NW, Washington 5, D.C.

CATHOLIC CHURCH IN THE UNITED STATES. The Catholic population of the United States, Alaska, and the Hawaiian Islands numbered 26,075,697 in 1948. This represented an increase of 807,524 over last year. Comparisons indicate an increase of 1,277 in the number of clergy, bringing the total of priests to an all-time high in the United States of 41,747. Professed religious include 7,335 Brothers, an increase of 397, and 141,083 Sisters, an increase of 520. The full-time teaching staffs of all educational institutions under Catholic auspices number 101,944 which includes 6,779 priests, 3,445 Brothers, 372 scholastics, 79,952 nuns and 11,396 lay teachers, an increase of 4,168 full-time Catholic teachers in a year. There are 61,131 nuns engaged in work other than teaching.

again being seen in considerable quantities on the world market.

In the United States, sales of dinnerware and decorative accessories were at peak levels in spite of a general 10 percent price increase announced by most major American potteries toward the end of the year. American styling, at one time almost exclusively imitative of European ware, achieved singular success during 1948 with bold colors and patterns and functional, though esthetically appealing, design. California emerged as a major center of this new style trend. (See GLASS AND GLASSWARE.)

—DONALD DOCTOROW

CEYLON. A British self-governing Dominion situated in the Indian Ocean south of India. The island achieved full dominion status on Feb. 4, 1948.

Area and Population. The area of Ceylon is 25,322 square miles. Population (1946 census): 6,658,999, of whom about two-thirds were Singhalese and 10 percent Tamils from southern India. Fifteen percent of the population was urban. Chief cities (1946): Colombo (capital), 361,000; Jaffna, 63,000; Dehiwala-Mt. Lavinia, 56,000; Kandy, 52,000.

Education and Religion. In 1945 a free educational system extending from the kindergarten to the university came into operation. Schools are Singhalese, Tamil, English, and bilingual, with a total enrollment in 1946-47 of 870,000. Higher education is given at the University of Ceylon and Ceylon Technical College. The majority of the inhabitants are Buddhists.

Production and Trade. Production is specialized, with tea the first and rubber the second outstanding product. Although rice is raised extensively, large imports are necessary each year. Coconuts, livestock, and a variety of minerals including gems are produced. The Dominion Government plans the erection of diversified industrial plants.

Although Ceylon has usually had an export surplus, the trend was reversed in 1947 when exports amounted to \$270 million and imports to \$290 million. In that year Ceylon-United States trade was \$86 million Ceylonese exports and \$33 million Ceylonese imports. In prewar years more than 75 percent of Ceylon's cotton textile imports came from India, Japan, and the United Kingdom, but in 1947 India was the chief supplier with 43 percent and the United States next with 29 percent.

Finance. In 1946-47 Ceylon had an estimated excess of revenue (\$93,900,000) over expenditure (\$93,300,000). The principal source of revenue is customs. The Government of Ceylon has planned the establishment of a Reserve Bank. A monetary agreement from 1948 signed with Great Britain and effective June 1, 1948, covered Ceylon's net sterling debt to the United Kingdom. Ceylon's dollar earnings in 1948 were estimated at \$54 million and dollar expenditures at \$30 million thus permitting Ceylon to be a net contributor to the dollar pool. In 1948 Ceylon tightened its exchange control regulations.

Transportation. Railway mileage in 1946 was 913. The merchant fleet is composed largely of sailing vessels.

Government. Executive power is vested in a Governor General appointed by the Crown. Legislative power (as from Independence Day, Feb. 4, 1948) rests with a Parliament of two chambers: a Senate and a House of Representatives. There is a Cabinet and Prime Minister responsible to Parliament. Since the elections of 1947 the United National Party has been in power. Governor General, Sir Henry Monck-Mason Moore; Prime Minister, Minister of

Defense, Minister for External Affairs, D. S. Senanayake; Minister for Home Affairs, E. A. P. Wijeyaratne.

Events, 1948. Impressive ceremonies were held in Colombo on February 4 in celebration of the emergence of Ceylon as an independent dominion. On February 10 the Duke of Gloucester opened the first Parliament of the Dominion of Ceylon in a setting of even greater splendor. In the presence of the accredited representatives of 25 nations, including Soviet Russia, the Duke of Gloucester read the King's Speech from the Throne, in which the King expressed his regrets that he was not able to open Parliament in person and said: "That Ceylon has been able to achieve her freedom by constitutional and peaceful methods in collaboration with my Government of the United Kingdom is a matter of profound satisfaction."

Ceylon's first year of independence was far less disturbed than that of her new sister Dominions in the East, India and Pakistan, or of nearby Burma whose secession from the British Commonwealth became effective exactly one month before Ceylon's Independence Day. While the others were erupting with domestic revolts, undeclared wars and the loss of leaders by violence or sudden death, Ceylon was quietly extending her political connections and developing her economic program.

The establishment of diplomatic representation was accomplished as early as possible. In July Sir Oliver Goonetilleke gave up his post as Home Minister to go to London as High Commissioner, replacing G. S. Corea, who was ordered to Washington as the first Ceylonese Ambassador to the United States. E. A. P. Wijeyaratne, a member of the State Council from 1931 to 1936, accepted the portfolio of Home Affairs.

The Commonwealth Conference. Prime Minister Senanayake represented his country at the Conference of British Commonwealth Prime Ministers which met in London, October 11-22. His country was given special and emphatic mention in the final statement of the Conference, whose members appeared to resent Ceylon's exclusion from the United Nations by virtue of a Russian veto. The Conference members placed on record their recognition of Ceylon's independence and affirmed that Ceylon enjoyed the same sovereign independent status as the other self-governing countries of the Commonwealth which were members of the United Nations.

After the Conference was over Prime Minister Senanayake said that he believed Ceylon, India, and Pakistan had much to gain as members of the Commonwealth. He himself advocated the holding of further meetings at the ministerial level, and hoped that within a year a meeting on foreign affairs would take place in the Ceylonese capital.

On June 29 the Government of Ceylon ratified the General Agreement on Tariffs and Trade entered into at Geneva on Oct. 30, 1947. This put into effect the concessions granted to the United States under the agreement, including those on machinery, radios, refrigerators, typewriters, and other products amounting, in terms of 1939 trade, to \$844,000. The United States concessions to Ceylon included those on rubber, tea, and coconut products. In the autumn there was a persistent report that Russia was in the market for Ceylon's entire rubber output for 1949.

—AIZADA COMSTOCK

CHEMISTRY AND CHEMICAL TECHNOLOGY. The rising tide of chemical activity has continued undiminished during 1948.

Analytical Chemistry. The resurgence of analytical chemistry as an important and fundamental field has continued. More than a dozen specially organized symposia were held and an International Conference on Analytical Chemistry took place at Utrecht, Holland, in June.

1. **Instrumental Methods.** The published papers and symposia discussion indicate that the major trend in analytical chemistry continues to be toward the development and perfection of instruments.

2. **Mechanization.** The tendency to mechanize and speed up analytical procedures is important. Devices have been described and are commercially available for completely automatic titration. A "quantometer" combines photoelectric intensity measurements with emission spectrography and enables a quantitative analysis for up to 16 elements to be made on metallic specimens within one or two minutes.

3. **New Balance.** The Swiss-manufactured *Gramatic* balance became available. The instrument has a single pan, operates with a constant load, and has a constant sensitivity. Weighing consists of removing weights, which are read directly on dials, and the final beam deflection is read directly in milligrams. A complete weighing can be done in 20 seconds.

4. **New Techniques.** Fundamental research in neutron diffraction, microwave spectroscopy, and ultrasonics will lead to new analytical instruments. The use of X-ray absorption as an analytical tool has been enhanced by the development of photomultiplier detectors. Analysts are also making greater use of statistics.

5. **Fluorometric Analysis.** The greatest development has been with respect to apparatus. The use of the photomultiplier tube to collect the fluorescent light from solutions has appeared on the new fluorometer. It is now possible to measure the fluorescence of 0.1 millimicrograms of riboflavin in 0.5 ml. of solution.

The new interference filter consists of two thin semitransparent metallic layers parallel to each other and separated by a distance of a few wave lengths. A dielectric layer is used to separate the metallic films.

The fluorescence of antimalarial drugs has been studied. A new simple test for tryptophan and other amino acids, where perchloric acid converts the compound at room temperature to a highly fluorescent substance, was developed. The fluorometric determination of rutin and penicillin has been accomplished. Boron forms a fluorescing complex with benzoin.

6. **Organic Microanalysis.** Emphasis has been on making old processes automatic and decreasing the time involved and, in general, putting procedures in such form that they can be handled by relatively untrained technicians.

The Unterzaucher method has been evaluated and results are far superior to those obtained by the classical hydrogenation method. The method is also applicable to inorganic materials which can be reduced by elemental carbon at high temperatures.

Progress was made in methods for converting organically bound fluorine to inorganic fluoride and the determination of fluoride by colorimetric, gravimetric, and volumetric procedures.

Microgram processes have been developed for biochemistry and nuclear research where minute traces are important and the sample size limited.

7. **Periodical.** In January the American Chemical Society publication in the field was officially named

Analytical Chemistry and many new features were added. An "Analyst's Calendar" was published and abstracts of the various symposia have been printed. Reviews which evaluate developments of the last few years will be published.

Chemurgy. The position of agriculture as a supplier of raw materials is definitely threatened by the synthesis of organic acids, alcohols, fibers, glycerol, and other products from coal, natural gas, and petroleum. Despite these advances, it is estimated that the farm value of major agricultural products and by-products used by the chemical industry in 1947 is over 1,000 million dollars.

The wet-milling industry, in 1947, consumed about 139 million bushels of corn and produced products valued at \$420 million. This compares with the 1942 and 1937 grinds of 130 and 68 million bushels, valued at \$218 and \$135 millions, respectively. Other developments are: (1) production of inositol from steep liquor; (2) use of steep liquor in the production of penicillin; (3) production of wool-like fibers from the corn protein; and (4) production of allyl ethers for protective coatings.

Soybean production has been increased fourfold since 1938. Glues derived from refined soybean proteins have displaced casein in many fields. Research on the production of adhesives and fibers from soybean, peanut, corn, and cottonseed proteins has made marked progress and some developments have been translated into industrial operations. Wheat gluten and casein are used for the production of amino acids.

Tall oil—a mixture of rosin and fatty acids—is being produced in ever-increasing quantities. The annual production, now exceeding 250 million pounds, is consumed by a wide variety of industries.

The synthesis of hexamethylenediamine, nylon intermediate, from furfural is an outstanding chemurgic development. The waste liquors from sulfite pulp are used in two plants for the production of industrial alcohol. The investment in these war-born plants has largely been amortized, while prices for blackstrap and ethylene used in competitive alcohol processes have risen.

Drugs. Annual appraisal of advances is complicated by the fact that the pace of discovery of new agents has accelerated more than has the pace of final evaluation of usefulness.

1. **Anesthesia.** The demonstration of the activity of Methadone (Amidone, Dolophine), 6-dimethylamino-4,4-diphenyl-3-heptanone, is one of great significance, since the synthesis of a substance simpler than morphine and of equal or greater analgesic action relieves our dependence on the opium poppy.

While curare does not cause loss of consciousness, it has been found widely useful during surgical anesthesia because of the muscular relaxation it produces.

Myanesin, 3-o-toloxyl-1,2-propanediol, was described first as a substitute for curare, and is useful in anesthesia and certain spastic muscular disorders.

2. **Antibiotics.** Aureomycin and Chloromycetin have been obtained from soil organisms, *Streptomyces aureofaciens* and *Streptomyces venezuelae*. Both have a wide spectrum of activity against both Gram-positive and Gram-negative bacteria. These agents are of unusual value against infections with Rickettsia. Chloromycetin also affords the first satisfactory chemotherapeutic treatment of typhoid fever. A virus-caused disease, lymphogranuloma venereum, responds to both drugs. These are exam-

ples of successful extension of antibiotic therapy into the field of non-bacterial, non-protozoal, infectious diseases.

A demonstration of practical value is that the use of aqueous or oil suspensions of the procaine salt of penicillin makes possible the painless, once-daily injection of this antibiotic.

3. *Antihistamines.* The discovery that bodily responses to histamine can be successfully combated has resulted in relief of symptoms and in emphasizing the role of histamine.

4. *Antimalarials.* War-accelerated research established that true prophylaxis of malignant (falciparum) malaria, but not benign, or relapsing (vivax) malaria, may be achieved by use of Quina-crine (Atabrine), Chloroquine, or Camoquin. The latter two are preferred, in that less frequent administration is required and staining of the skin does not occur.

Previously, Pamaquin, from 8-amino-quinoline, was of value in the therapy of relapsing malaria. Now Pentaquine has been found useful as a prophylactic and cure. Puludrine has properties like those of Chloroquine.

5. *General.* The filarial worm causing elephantiasis is responsive to treatment with Hetrazan, 1-diethylcarbamyl-4-methylpiperazine. Hexachlorocyclohexane, active against many forms of ticks, fleas, and lice, is now most helpful in scabies.

6. *Sympatholytics.* Control of the activity of the sympathetic nervous system has not been practical. Considerable action has been shown for Dibenzamine (dibenzyl- β -chloroethylamine), Priscol (2-benzylimidazoline), Etamon (tetrachylammonium chloride), and certain alkaloids of ergot, but therapeutic appraisal is still in progress.

7. *Tumor Chemotherapy* has been hopeful but equivocal. The nitrogen mustard, N-methyl-bis- β -chloroethylamine, may cause remission in up to 90 percent, but no cures.

8. *Vitamins.* The value of the nutritional requirements of bacteria in exploring this field is evident in the discoveries of folic acid and vitamin B-12. The former is active in promoting formation of red blood cells in cases of pernicious anemia, but does not relieve other difficulties. Vitamin B-12 gives relief in daily doses of one-millionth of a gram, and appears to be the long sought anti-pernicious anemia factor in liver.

Fertilizer. The consumption of commercial fertilizers by the American farmer in 1947 was over 15 million tons; 1948 will be even higher. Not only has the tonnage been increased, but the actual plant nutrient content of the fertilizer was increased.

1. *Fluorides.* The results of an extensive survey indicate that in the Pittsburgh area, unexpectedly large amounts (200 parts per million) of combined fluorine are to be found in the undamaged foliage of trees, alfalfa, grass, and other vegetation. The plants may absorb fluorine from the soil and from coal smoke in the atmosphere.

2. *Liquid and Gas.* The use of liquid and anhydrous ammonia in direct application to the soil is becoming widespread, especially for cotton and grain. Special equipment has been designed to make application directly into the soil. (See *nitrogenation* and *nitrojection* under GLOSSARY.)

3. *Movement.* A simple technique for studying the movement of soluble fertilizer in the soil has resulted in more practical methods of fertilizing sandy soils.

4. *Radioactive Isotopes.* The use of radioactive compounds in fertilizer mixtures has proved some of the old theories about the absorption of various

nutrients. The differentiation between the amount of plant food absorbed from the fertilizer and soil nutrients in soils of various fertility levels has revealed that the amount of phosphorus absorbed from fertilizer added to the soil is much less where it is less fertile.

5. *Secondary Elemental Deficiency.* The detection and use of such deficiencies as magnesium, boron, manganese, copper, and zinc have resulted in improvement of quality and crop yields.

Molybdenum is a normal constituent of plant material. Under alkaline conditions, enhanced by over liming in humid regions, the movement of molybdenum into the plant has been found to be sufficient to cause sickness in cattle when the plant material carries more than 20 parts per million.

Cobalt deficiency in animals has indicated areas which require supplemental treatment.

6. *Soil Aeration.* The use of rubber-mounted heavy machinery and growth-regulating substances which lessen the necessity of cultivation has resulted in soil compaction and poor aeration. The use of gypsum, lime, superphosphate, and deep tillage has resulted in phenomenal increases in yield.

The use of high phosphate fertilizer in the row in the heavy soils of Canada has resulted in hastening maturity and improving yields of tomatoes and other vegetable crops.

Fuel. Highlights of 1948 were: continued unprecedented expansion in the use of and demand for all types of fuel; extensive research and development work on methods for producing synthetic gas and liquid fuels; marked expansion of the low temperature carbonization industry; and development of peak-load processes for the production of high-Btu gas.

1. *Gaseous.* Effort has been directed toward the conversion of coal into carbon monoxide hydrogen mixtures, from which synthetic chemicals, liquid fuels, and fuel gas may be manufactured. Emphasis has been on modifications of the "fluid-bed" process. Several pilot-size gasification units have been in operation during the year. Development work on pilot equipment has also been conducted on modifications of the Lurgi gasification process.

The consumption of natural gas amounted to nearly 6 trillion (6×10^{12}) cubic feet. Proved reserves are currently estimated at 165 trillion (165×10^{12}) cubic feet. Shortages during the winter months stimulate large-scale use of peak-load processes.

2. *Liquid.* The petroleum industry has increased refinery capacity as rapidly as is physically possible and has operated existing facilities at or near peak capacity, but has been unable to meet the increased demand.

Crude oil production approached 2,000 million barrels, from an estimated proved reserve in the U.S. of between 21,000 million and 22,000 million barrels. Major wells were brought into production on the continental shelf off the Gulf Coast, in the Cuyama Valley district of California, and near Edmonton, Alberta.

Although America's potential production capacity for liquefied petroleum gases is estimated at 17,000 million gallons per year, 1948 production amounted to only about 2,000 million gallons.

Petroleum companies showed marked activity in research and development work on synthetic liquid fuels and many associated themselves with coal companies having similar interests. Several of the major companies are currently investigating the recovery and refining of shale oil.

3. *Solid.* The direct conversion of coal into liquid fuels and chemicals by hydrogenation at pressures

up to 10,000 pounds per square inch and at temperatures up to 500° C. continues to receive considerable attention. A heavy fuel oil, meeting Bunker C oil specifications, is in the offing at a cost of 12 cents per gallon or less.

Americia's coal reserves are generally quoted at about 3,000,000 million tons. Recent estimates suggest that the actual reserves of recoverable coal may be only 5 to 10 percent of the foregoing estimates. American coal production now approaches 700 million tons per year.

By-product coke production exceeded 67 million tons. Coal charged to coke ovens exceeded 95 million tons. Production of coal chemicals from carbonization plants approached an all-time high. Values of all carbonization products have shown a steady increase since 1944. Total value of by-products produced last year amounted to \$3.71 per ton of coke produced.

Public pressure for the elimination of atmospheric pollution resulted in the adoption of additional or more stringent smoke ordinances and added impetus to research.

4. Oxygen. Previous to 1948, oxygen was produced principally for cutting and welding purposes in 2- to 10-ton-per-day plants. This oxygen was a 99.5 percent purity product, but too expensive for tonnage use. During the year, tonnage oxygen has become a reality, with 9 plants ranging in capacity from 135 to 2,000 tons per day, under construction or completed. Operating costs, including fixed charges, may be as low as \$3.50 to \$4 per ton.

All of the tonnage oxygen plants will produce oxygen of 90 to 95 percent purity and will permit a side stream take-off of 99.5 percent oxygen for special purposes.

Different operating cycles, employing various types of heat exchangers and regenerators, have been developed. All employ relatively low pressure (about 85 pounds per square inch as compared to the 400 to 3,000 psi of the older methods) and turbo compressors and expanders.

Fuel Utilization. It is only recently that newer refining procedures have produced a sufficient quantity of high-octane automotive fuel to justify a study of high compression engines in a semi-practical way.

The results of these studies are having a profound effect upon the evolution of the transportation industry. High-octane quality fuels permit large practical gains in fuel economy without sacrificing customer acceptance of the product. A 10-to-1 compression engine operating on a fuel of 98 research octane number is 40 to 45 percent more economical than a corresponding 1947 car requiring a fuel of 85.

The chemical structure of the constituents of gasoline affects the cleanliness of the combustion process in the engine as well as the antiknock quality of the fuel. Gasolines differ markedly in the degree to which they form films of deposits on the pistons, cylinders, and other engine parts. The effects of sulfur on the antiknock action of tetraethyl lead have been studied.

Metallurgy. Waning natural resources and an increasing demand for metals have caused the metallurgists to direct their efforts principally to process metallurgy. Although shortages of many metals prevail, the most critical is the shortage of iron. We are now faced with the exhaustion of our high-grade iron ores within 30 or 40 years. The concentration of low-grade iron ore is being attacked from such angles as gravity concentration, heavy-media separation, and magnetic roasting. Within a year experimental plants totaling \$30 million in

cost will be in operation, aimed at the solution of this problem.

Manufacturers, politicians, and labor leaders, clamoring for an expansion of our productive capacity, apparently do not realize that such an expansion would, in itself, consume hundreds of thousands of tons of steel, and really make the immediate situation worse instead of better. A much more intelligent approach is to increase the capacity of our present steel plants by operation at a higher gauge pressure. An increase to only 25 pounds gauge results in 15 percent greater tonnage of iron, a 10 percent reduction in coke consumption, and a 20 percent reduction in flue dust lost.

The use of oxygen in the open hearth furnace to reduce the time consumed in melting the scrap, and later to accelerate the elimination of carbon, has increased materially the capacity of existing open hearth furnaces and made the production of low-carbon alloys cheaper and easier. It will unquestionably be used on a still larger scale in the operation of Bessemer converters and iron blast-furnaces. It is not at all unlikely that as a result of these developments our existing steel capacity will be sufficient to supply our needs for several years to come.

Another problem of the metallurgist has been the costly and laborious process of reducing a steel ingot to a usable form such as an angle iron, a plate, sheet, or bar. Continuous casting of steel has been carried out on a pilot plant scale. Close control of time, temperature, pressure, and use of new water-cooled mold has resulted in the continuous and efficient production of billets of moderate cross section.

A new process has been developed for making synthetic cryolite, which is suitable for use as electrolyte in the production of metallic aluminum. Other noteworthy developments are reducing the ash and sulfur in coking coals; greater utilization of the process for producing electrolytic tin plate; utilization of the fluidization principle of suspension in speeding up roasting, carbonization of coal, and controlled roasting of ores; efforts to produce very pure metals for special uses; and processes for the reduction and working of such refractory metals as molybdenum, tantalum, and tungsten for use in jet engines and gas turbines, and the utilization of nuclear energy.

Nuclear Chemistry. Advances have been made in the nuclear chemical aspects of the chain reactors, power piles and breeders. The general nuclear reactor development program has been centralized and a strong chemical and chemical engineering group has been built up.

1. Isolation of New Elements. A number of elements have recently been isolated in macroscopic quantities. Curium (96) was isolated in weighable amount following its production by the transmutation of americium (95) with pile neutrons. Use of the long-lives technetium-99, isolated from uranium fission products, has resulted in the isolation of the element technetium (43) in macroscopic quantity. The element with atomic number 61 has also been isolated in substantial weighable quantities.

2. Molecular Structure by Neutron Diffraction. Slow neutron beams from the nuclear chain reactors have been used in diffraction experiments to give information on molecular structure. The structures of a number of hydrides have been determined and some new metallurgical information has been obtained.

3. New Radioactive Isotopes. Over 100 new radioactive isotopes have been reported within the last year or so, covering the entire range of the periodic

table. Among these have been numerous interesting new cases of nuclear isomerism. Several instances of triple isomerism have been discovered. Rhenium (isotope Re^{187}), as it occurs in nature, was found to be radioactive.

4. Separation of Rare-Earth Elements. Initiated by use of tracers on the Plutonium Project, an excellent method has been developed for separating the rare-earth elements from each other in macroscopic quantities. Using ion-exchange resins, methods have been worked out for obtaining all of the rare-earth elements in pure form.

5. Ultra-High Energy Reactions. The operation of the giant 184-inch synchrocyclotron at the Radiation Laboratory of the University of California has led to a number of interesting new results. The bombardment of elements throughout the entire range of the periodic table with the 200 Mev deuterons and 400 Mev helium ions with this machine has led to the observation of the so-called spallation reactions in which products differing from the target nucleus by as much as 30 to 40 mass units and 10 to 15 atomic number units have been observed. A number of elements below the uranium region undergo the fission reaction when irradiated with such high energy particles. Mesons, both heavy and light varieties, have been produced for the first time by artificial means. A number of new collateral radioactive series has been produced and identified in the region of atomic numbers of about 82 to 92 as a result of bombardment of heavy natural radioactive elements with these high energy projectiles.

6. Use of Tracers. About 2,000 shipments of radioactive tracer isotopes were made to some 200 institutions in the United States, whereas about 200 shipments were made to 15 other countries.

Carbon-14, for example, has been used to study the photosynthetic mechanism; radioactive P-32, to elucidate metabolism in normal animals and those bearing malignant tumors; radioactive S-35, for elucidation of the biosynthesis of penicillin.

Separated stable isotopes (more than 100 varieties of 29 elements) also have been made available and these together with deuterium, enriched nitrogen-15, and carbon-13 have been used both as tracers and as an aid in the conduction of research in nuclear chemistry. Among the applications of stable isotopes as tracers in biochemistry may be mentioned the use of deuterium to elucidate the synthesis of fats by micro-organisms.

Organic Free Radicals. Of considerable interest is a series of papers on the decomposition of t-alkyl peroxides and on the hydrogen bromide catalyzed oxidation of t-alkanes.

Petroleum. 1. Alcohols. By the oxo synthesis, the octyl form of alcohol is now in production. This alcohol is utilized primarily for the manufacture of phthalate and other esters for use as plasticizers. The production of synthetic ethyl alcohol, sec.-butyl alcohol, ethylene glycol, glycerol, and isopropyl alcohol, from petroleum or petroleum by-products, has expanded.

2. Butadiene. During the early part of the synthetic rubber program in the United States most of the butadiene was derived from ethyl alcohol because less steel was required. In 1948 all butadiene in the U.S. was manufactured from petroleum sources. Progress was made in preventing the formation of insoluble polybutadiene, popcorn polymer.

Butadiene oxide and vinylcyclohexene (butadiene dimer) are marketed on a small scale. Isoprene is used in the manufacture of Butyl rubber.

3. Chemicals for Agriculture. Synthetic chemicals

from petroleum used in agriculture include: blossom thinning agents as well as fungicides, growth regulators, insecticides, repellents, soil fumigants, vine killing agents, weed killers, and the like.

4. Hydrocarbons. Synthesis from petroleum sources gives toluene and xylenes. The o-xylene is oxidized to phthalic anhydride. The fluid catalytic technique is in use for the oxidation of naphthalene to phthalic anhydride.

Cyclohexane of 85 percent minimum purity is available for the manufacture of nylon. Ethylene has been utilized in increased volume in the manufacture of acrylonitrile, ethyl alcohol, ethylene glycol, styrene, and tetraethyl lead.

5. Synthetic Detergents. The sale for 1947 amounted to 600 million pounds (240 million pounds of active ingredients). The alkaryl sulfonates, which are prepared by alkylating aromatics by appropriate olefins, account for the greatest volume.

6. Synthetic Fuels. Interest in the production of liquid fuels from natural gas and coal continues to expand, and is taking a long term viewpoint.

Petroleum Refining. Present petroleum refining processes are characterized by extreme flexibility. The relative amounts of Diesel fuel, gasoline, heating oil, residual fuel oil, and other products made from crude oil are constantly adjusted to meet changing seasonal and market demands. The use of crystallization, precise fractional distillation, selective solvent extraction, and solid absorbents enable sharp hydrocarbon separations according to boiling points, freezing points, and chemical characteristics. Chemical conversions involving both decomposition and synthetic reactions add greatly to the number of petroleum products.

Cracking to produce gasoline is vastly improved by use of refractory clay-type catalysts to give higher-octane motor fuel. Catalytic cracking not only produces higher octane gasoline, but more Diesel fuel and heating oil and less residual fuel, tars, and coke. In catalytic cracking, moreover, there is less mercaptan and more hydrogen sulfide formation, and the sulfur in the carbonaceous deposits on the catalyst is eliminated as sulfur dioxide when the spent catalyst is regenerated.

Catalytic cracking processes employ (1) pellets in stationary beds; (2) beads in moving beds; and (3) powders in fluidized dense phase. The latter is dominant at present. Another improved feature is the use of microspherical catalyst powders in the fluid process, which undergo less wear and cause less erosion.

Since the gases from cracking contain substantial quantities of polymerizable propylene and butylenes, plants for converting these olefins to polymer gasoline are now standard equipment. Using a kieselguhr-phosphoric acid catalyst, liquid polymers of over 80 octane are produced.

The alkylation of isobutane with gaseous olefins, using H_2SO_4 or IIF, gives isoparaffinic alkylates which have octane ratings over 90 and high susceptibility to tetraethyl lead.

Isomerization of n-butane to isobutane using an AlCl_3 catalyst gives increased supplies of the key hydrocarbons for alkylation plants. The conversion of n-pentane and hexane to branched isomers, using a liquid aluminum chloride-hydrocarbon catalyst, gives hydrocarbons of markedly improved antiknock properties.

In finishing gasolines, the use of chemical reagents such as sulfuric acid to remove gum-formers and reduced sulfur is being superseded by more selective and less wasteful methods. Solvents such as solutions of methanol in sodium hydroxide are used for removing odorous mercaptans. Phe-

nol- and amine-type inhibitors in small amounts retard gum formation. Tetraethyl lead is added for increasing octane rating.

Demand for Diesel fuel is increasing. The fuels of best ignition and combustion characteristics are primary uncracked petroleum distillates. The combustion quality of Diesel fuel from cracking is improved by small amounts of organic nitrates or peroxides.

Lubricating oils are available for every service. Additives are now in use for improving oiliness, reducing freezing point, and increasing oxidation resistance. Others are used for reducing viscosity loss accompanying temperature rise. Special detergents are added which keep bearing surfaces washed free from deposits. Other additives reduce foaming tendencies and rust formation.

The silicones have exceptional lubricating quality, and frequently show approximately the same viscosity at zero and 400° F., which makes them valuable in airplane engines operating between extremes of desert heat and stratosphere cold.

Production of chemicals from petroleum base hydrocarbons is growing rapidly. Phthalic anhydride is made at the rate of 8 million pounds a year by the oxidation of *o*-xylene from California petroleum. Glycerin is manufactured from propylene by high-temperature substitutive chlorination, followed successively by hydroxychlorination and alkaline hydrolysis. Acrolein is a product of cracking diallyl ether, a by-product of glycerin manufacture. While the production of chemicals utilizes less than one percent of petroleum production, its future growth seems assured.

The Bureau of Standards has furnished ultraviolet, X-ray, and infrared spectra for identification of hydrocarbons. The mass spectrometer is also in extensive use for rapid analysis of hydrocarbon mixtures.

Pharmacology. Many achievements have been translated into therapy and new drugs have made their appearance in the physician's armamentarium.

The number of drugs which will combat the action of histamine and are useful in the treatment of hay fever and urticaria is increasing at a tremendous rate. Compounds are now available of the Neoantergan type which will successfully antagonize 100 fatal doses of histamine in the guinea pig. Besides, the use of the newer antihistaminics is accompanied with less untoward side-reactions than some of the early drugs of this class.

The recent release of dihydrostreptomycin, which has less vertigo-producing action on the semicircular canals, means that this form of streptomycin may be employed in the treatment of tuberculosis without affecting seriously the equilibrium sense of the patient.

The isolation of vitamin B₁₂ represents a major advance. This compound in extraordinarily small quantities appears to be the agent responsible for the maturation of the red cell in pernicious anemia. If in later experimentation this compound shows the degree of usefulness that it has exhibited to date, it will end the 20-year search for the active antipernicious anemia principle from liver.

Plasticizers are liquid or solid agents that are compounded with resins to produce the useful composite products known as plastics. The plasticizer confers pliability, distensibility, and workability to the resin. The kind and amount of plasticizer used with a given base resin determines the degree of flexibility imparted to the composition.

1. Evaluation. The American Society for Testing Materials through its Committee D-20 has been very active and helpful in making some degree of

standardization possible. Current methods of evaluation are based for the most part on stress-strain relations of plasticized specimens in tension, torsion, bending, and shear. Permanence in air, oil, and water is measured and a few miscellaneous tests are applied.

Other approaches to the characterization of plasticizers include studies on the second-order transition phenomena of plastics, dielectric loss of plasticized specimens at various temperatures, the technology of plasticizers by studying the time dependence of deformation of plasticized specimens by means of creep measurements, and the determination of heat softening points of cellulose acetate plastics. These investigations permitted the correlation of the logarithm of the heat softening temperature with the molar proportion of plasticizer present. The slope of this line proves to be a measure of plasticizer effectiveness.

2. New Uses. New applications are the introduction of the plastisols and organosols, which are suspensions respectively of finely-divided resin particles in plasticizer or in plasticizer and volatile diluent. By the use of these resin-plasticizer pastes, very economical application of plastics to use in coatings, films, and certain molded goods may be made.

3. Rapid Expansion. The production of plasticizers in this country has expanded very rapidly during and since World War II. During the war, the Services required material that would withstand severe wear and extremes of temperature and climate. The vinyl resins, properly plasticized, offered this combination of properties, and paced by the military needs, their production expanded rapidly.

Approximately one pound of plasticizer is required for each two pounds of vinyl resin used, so that the quantity of plasticizer necessary to supply the vinyl plastics industry alone is equal to half of the weight of the vinyl resin production. When the uses of plasticizers in coatings and in other applications is added to this, the total annual volume (1948) amounts to almost 200 million pounds. Dibutyl phthalate, dioctyl phthalate, and tricresyl phosphate are in considerable demand as well as castor oil and certain of its derivatives. In recent years, plasticizers of higher molecular weight are becoming somewhat more important, such as linear polycondensation products and polymerization products. Such plasticizers have the advantage of being very permanent, but leave considerable to be desired in the way of low-temperature pliability and in workability during compounding.

Plastics. Production has increased considerably during 1948, since increased facilities have become available. This is particularly true of polystyrene, the production in 1948 exceeding 100 million pounds for the first time, and polyvinyl chloride, which is expected to exceed 200 million pounds. It is increasingly apparent that the supplies of coal-tar crudes are not sufficiently great to supply the demand. The petroleum chemicals are, therefore, being used to supply raw materials for increased production in plastics.

Resinography has been proposed as the name for the graphic study of structures in resins and plastics.

1. Miscellaneous. New families of plastics with high impact strength made from copolymers of butadiene and styrene or acrylonitrile, and blends of polymers, appeared under the names Versalite and Tuf-lite. These materials are related to the synthetic rubbers. Large-area signs formed from Lucite or Plexiglas were developed for novel and effective advertising displays.

2. *Phenolic Resins*. These are among the first materials used as plastics, but their applications and production expand annually. In recent years, their use with natural and synthetic rubbers has been expanding, and mixtures of improved toughness and impact strength have been produced. The range of phenolic content varies considerably.

3. *Plaskon* 420, a new alkyd molding compound, a hot molding thermosetting material particularly notable for its very fast cure and good arc resistance, was announced.

4. *Polychlorotrifluoroethylene*, an unusually stable, high temperature thermoplastic, was placed on the market under the trade name Kel-F. This transparent material is resistant to attack by chemicals and solvents, is a good electrical and heat insulator, is normally rigid and strong, and is tough at very low temperatures.

5. *Polystyrene*. The production of this plastic material has been greatly increased and it is finding wide application in all types of thermoplastic molding. Some of these will yield molded products which do not deform in boiling water. Styrene is also used in the low-pressure laminating resins. These resins are now offered with varying degrees of stiffness, and improved promoters effect a cure without heating. The polystyrene copolymers containing butadiene have found a wide range of applications. They can be used with natural and synthetic rubbers to reinforce and harden these compositions. Another use of polystyrene has been as a starting material for ion-exchange resins.

6. *Protective Coatings*. Styrenated oils are formed by adding styrene or α -methylstyrene to the drying oils. The introduction of these hydrocarbons improves water resistance and many of the other properties of the resulting oil. Styrenated alkyds have also been announced and are finding widespread acceptance in the coatings field. By heat bodying mixtures of soya and tung oils under controlled conditions, a combination is effected which is widely used to replace linseed oil.

7. *Silicones*. These plastic derivatives are finding many new applications where their unique properties dictate their use. Materials have been made which are flexible at -150°F . and will withstand continued service at 500°F . The direct process of forming silicones from silicon and methyl chloride is meeting with success.

8. *Synthetic Rubbers*. The quality of rubber in tire treads has been greatly improved by polymerization at considerably lower temperatures, through the use of oxidation-reduction systems to promote the polymerization, which have resulted in shortening the polymerization to a reasonable time. The resulting rubber is more uniform in its structure and shows greatly improved resistance to abrasion and resistance to cut growth. Improvements have also been effected by the use of structural blacks.

9. *Vinyl Chloride Resins*. The vinyl chloride resins are meeting expanding markets, and the paste resins have made new techniques in formulation possible. One new type of vinyl chloride resin contains a small content of hydroxyl groups along the chain. The use of this resin with the oils helps reinforce the dried film. There is considerable interest in polyacrylonitrile and its copolymers, particularly in synthetic fibers.

Polymerization. In the study of polymerization kinetics in homogeneous media, data on the relative reactivity of monomers in copolymerization were published. These provide information on the effect of structure on reactivity in free radical reactions. Studies of regulators in the chain transfer reaction have been published. Absolute rates of

chain growth and chain termination reactions have been reported and indicate that rapid polymerization occurs at radical concentrations of the order of 10^{-8} molar.

In emulsion polymerization, further evidence that the locus of the reaction begins in the soap micelles and continues in the emulsion particles has been obtained; while a detailed theory of the kinetics of the reaction, which indicates that rate depends primarily upon the concentration of polymer particles, has been developed. Attention has been given to redox systems which permit emulsion polymerization at low temperatures.

The greatest advance is the development of Cold GR-S, a butadiene-styrene copolymer prepared near 0°C . by use of redox systems as catalysts. Cold GR-S, used in conjunction with certain carbon blacks in tires, gives a tread-wear apparently superior to natural rubber.

Protein. Electron microscope photographs of virus protein crystals, of antigen-antibody complexes, and of other protein structures, have revealed much about the molecular architecture of these compounds.

The crystallization of serum albumin, both human and bovine, from water-ethanol mixtures at low temperature and low ionic strength has been effected. The addition of decanol (0.1 percent) was found to be of essential importance in the crystallization of human albumin. A new technique was reported for crystallization of serum albumin with mercuric chloride.

The binding affinity of albumin is extraordinarily great for a variety of inorganic and organic anions, and such reactions quite probably play an important role in the biological function of serum albumin.

A β -globulin (M.W. 90,000) from blood plasma, which binds iron, copper, and zinc, was crystallized. It binds two iron atoms per mole, and appears to function as the essential agent for carrying iron in blood plasma. The affinity for copper and zinc is much weaker than for iron.

Accurate amino acid analyses were made by chromatographic separation of protein hydrolysates on a starch column, using colorimetric analysis.

1. *Blood Clotting*. A new factor (Ac-globulin) in the blood clotting process accelerates the conversion of prothrombin to thrombin in the presence of calcium ions and thromboplastin. Highly purified bovine fibrinogen and highly purified human fibrinogen have been prepared. A very extensive study was made of the structure of the fibrin clot as a function of pH, ionic strength, and other factors. The structure of the clot can be varied between two extremes: (1) an opaque, rubbery type at relatively low pH (near 6.3) and low ionic strength; and (2) a translucent, friable clot at higher pH and ionic strength. The former is formed by extensive aggregation of the initially formed fibrin network into parallel bundles; the latter is formed under conditions which inhibit this aggregation. This interpretation has been demonstrated by electron microscope studies.

2. *Diffusion*. The new interference technique permits the determination of diffusion constants of small molecules, and also of large molecules like proteins, with an accuracy of the order of 0.1 percent.

3. *Enzymes*. The formation of an intermediate compound between catalase and hydrogen peroxide now seems certain. The enzymes aldolase and glyceraldehyde phosphate dehydrogenase were crystallized and the prosthetic group of the latter enzyme is believed to be diphosphopyridine nucleotide.

4. *Heme*. Employing N-15 as a labelling compound, it has been shown that the nitrogen of heme is derived from glycine; and studies with C-14 have indicated that the α -carbon of glycine is in the α -position of the pyrrole nucleus, while the carboxyl carbon is the methine carbon of the porphyrin nucleus.

5. *Reversible Binding*. Cobaltodihistidine, which reversibly binds and gives off oxygen, has been prepared. A number of organic chelate compounds behave similarly.

6. *Size*. Estimates were made of the sizes and shapes of a number of blood plasma proteins from sedimentation, diffusion, double refraction of flow, viscosity, and osmotic pressure data. Most elongated of these is fibrinogen (about 700 Å long and 38 Å in cross-section). The β -lipoprotein of human plasma is nearly spherical and highly hydrated, with a molecular weight of 1,300,000. Serum albumin, with a molecular weight of 69,000, is approximately 150 Å long and 38 Å in cross-section.

7. *Synthetic Polypeptides*. Large polymers have been obtained of lysine as well as copolymers of leucine and phenylalanine.

Sewage and Industrial Wastes. Research has been directed toward a better understanding of the biochemical oxygen demand (B.O.D.) test and a study of analytical methods, largely through grants-in-aid by the National Institute of Health.

The most important advances on the B.O.D. determination were the application of manometric measurements and a re-evaluation of the velocity constant. It was shown that the 24-hour, 25° C. demand by the Warburg manometric measurement is approximately 75 percent of the standard 5-day value. The B.O.D. reaction velocity constant K is not 0.1 but varies from 0.04 to 0.29 for sewages, but if nitrification is taken into consideration the variation is from 0.07 to 0.25. More than 0.01 part per million of copper or of 0.3 part per million of chromates will give inaccurate B.O.D. values; copper above 0.01 suppresses the B.O.D. and more than 0.3 parts per million of chromates inhibits nitrification.

Many analytical papers dealt with new or improved procedures for phenol, copper, zinc, cyanides, chromium, nickel, grease, oxygen consumed, and an amperometric titration method for residual chlorine.

Radioisotopes in Research. Isotopes produced at Oak Ridge are now used in more than 300 laboratories and hospitals in this country and abroad. Their potential uses are unlimited, and already there are approximately 1,000 individual research projects utilizing isotopes.

1. *Agricultural Research*. Radioisotopes are aiding in advancing the efficient production of meat, milk, and eggs. Eighteen tracer studies on the process of photosynthesis are presently under way. Radioisotopes are used also in the development of better fertilizers: how plant foods are most effectively applied; what forms of fertilizer are best; how the plants utilize them. Approximately 12 current projects are aimed at a better understanding of how plant diseases and pests develop and attack crops. Radioisotopes afford new tests for the efficacy of insecticides and fungicides.

The application of radioactivity on plant and animal growth seems to indicate that small amounts of radiation may stimulate plant growth.

2. *Chemistry and Physics*. Radioisotopes in physics are aiding in the understanding of the fundamental forces which bind the nucleus together by assisting in the measurement of magnetic moments and spins. In chemistry, isotopes are aiding in

studying a great variety of processes, such as molecular formation, diffusion in liquids and solids; interaction among gases, liquids, and solids; catalytic action, solubility of materials, complex biochemical reactions, and many other phenomena.

3. *Education*. Now that isotopes are available, a limiting factor in their widespread utilization is the shortage of scientifically trained technicians. Many universities are offering courses in radioactivity and the U.S. Atomic Energy Commission has educational programs under way at their national laboratories. Information is available from the Technical Information Division, U.S. Atomic Energy Commission.

4. *Industrial*. As tracers, radioisotopes are used widely for the improvement and study of various processes. Manufacturers of gasoline, machinery, oil, plastics, rubber, and steel are only a few of those who are applying tracer research to bring about better and more economical production of their products. Radio carbon provides investigators with a method of studying diffusion of carbon in iron. Radio iron used in friction experiments reveals the transfer of less than 1,000 millionth of an ounce of material from one moving surface to another. In the petroleum industry isotopes are employed for surveying and locating oil deposits.

In the rubber industry, vulcanization and polymerization processes are studied with the radioisotopes of sulfur. In the rayon industry, where sulfur must be added and then removed, radio sulfur is giving extremely accurate information on the quantities employed.

Radiation is used also to dissipate static electricity which collects on belts, rolls of paper, and other moving materials in factories.

5. *Medical*. Isotopes are utilized in two ways: (1) as sources of radiation, particularly in the treatment of diseases; and (2) as tracers in processes formerly difficult or impossible to observe.

Employed as tracers, radioisotopes are making their greatest contribution in the unraveling of the complex, kaleidoscopic picture of life processes in both medicine and biology. In medicine, isotopes contribute to a clearer picture of how the living body works. In hospitals physicians are using radioisotopes to diagnose various circulatory disorders, locating malignant tumors and supplying important information of hematology.

Radioiodine is used successfully in the treatment of toxic goiter, since nearly all iodine in the human body is localized in the thyroid, although treatment of thyroid cancer by radioiodine has been less successful. Similarly, radio phosphorus concentrates in the blood-producing centers—the bone marrow, the spleen and lymph glands—and is used in the treatment of certain blood abnormalities such as a polycythemia. The possibilities of employing radioisotopes in the fight against cancer is of major interest, and the Atomic Energy Commission is distributing radioisotopes free for such studies. Metallic cobalt, when irradiated in the pile, emits radiations similar to radium and there is hope that it may eventually come into general use in cancer treatment since it can be made inexpensively and fabricated into special applicators.

Essentially the problem is to find molecules which will localize in specific diseased body tissues. These molecules will then be tagged with radioisotopes which will provide effective radioactivity. Used as tracers, radioisotopes will aid in determining which molecules can be localized in malignant growths.

Starch. Progress in the chemistry of starch during the year was made in a number of areas, as in:

1. *Acid Hydrolysis.* The α -1,6-glycoside linkage is less susceptible to hydrolysis than is the α -1,4-linkage. The latter has greater stability in cyclic structures such as the Schardinger dextrans than it does in linear structures.

2. *Amylases.* Crystalline β -amylase, bacterial α -amylase, pancreatic α -amylase, and salivary α -amylase were isolated. Through use of these enzymes, the action of amylases on starch may be ascertained.

3. *Applications.* A number of papers and patents deal with the chemical and physical structure of starch granules, colloidal properties of starch, fermentation, paper sizing, textile sizing, etc.

4. *Derivatives.* The starch aryl carbamates have been prepared and characterized. Considerable difference was found between the derivatives of amylose and amylopectin. Starch tricarbamate was fractionated into two components by use of ethyl acetate.

5. *Enzyme Action.* One theory of enzymatic hydrolysis proposes that when β -amylase contacts an amylose molecule, the chain is degraded completely before another amylose molecule is attacked. All crystalline α -amylases appear to effect complete hydrolysis of amylose to glucose (13 percent) and maltose (87 percent).

6. *Fractionation.* Amylose may be precipitated from an alkaline starch paste (pH 8) by the use of thymol or other phenols.

7. *Iodine Reaction.* From thermodynamical considerations, it is proposed that the starch iodine complex is dipolar. Residues of 4 to 6 glucose units give no coloration with iodine, those of 8 to 12 give red with a peak at 520 millimicrons, and those of about 30 or more give blue with a peak at 600 millimicrons.

8. *Phosphorylase Action.* Muscle phosphorylase can degrade glycogen and amylopectin beyond branched junctures. Potato phosphorylase, like β -amylase, however, is apparently unable to pass a branched juncture. Neither is capable of splitting the α -1,6-glycoside linkages. Isophosphorylase, isolated from potato juice, appears to be capable of synthesizing a branched structure and of splitting the α -1,6-glycoside linkage.

9. *Properties and Structure.* 3,5-Dinitrosalicylate has been used as an oxidizing agent for end group analysis. Corn amylose gives values ranging from 200 to 2,100 glucose residues. Periodate on amylose indicates one reducing group per 250 glucose residues. Crystalline addition compounds of amylose appear to have a repeat period of 6 glucose residues. Molecular weight of corn amylose subfractions by osmometry ranges from 200 to 675 glucose residues.

Synthetic Organic Chemistry. The recent rapid growth of the synthetic organic chemical industry stems in a large measure to 3 influences: (1) the postwar need for chemicals; (2) the availability of intelligence reports describing German practices; and (3) the postwar boom.

The production of formaldehyde, acetaldehyde, acetone, methanol, and other chemicals by the air oxidation of butane and propane (liquid petroleum gas) is an important development. This process also provides acetic acid and ketone (from acetone), which are used in synthetic fiber operations. The production is sufficiently large to warrant the establishment of a tanker service for the delivery of formaldehyde. Ethylene has displaced blackstrap as the major source of industrial alcohol.

Fatty acids suitable for the manufacture of soaps are obtained by the air oxidation of the higher (C_{18} to C_{28}) paraffins.

Advances were made in the field of protective coatings where unsaturated glycerides have been supplemented by a wide variety of synthetics such as allyl ethers and vinyl esters.

The oxo or carbonylation reaction is now used in the production of acetic acid from methanol and glycolic acid from formaldehyde, and isooctyl alcohols from heptene.

Three potential processes for the commercial synthesis of lysine were reported. Methionine and tryptophan are now available in commercial quantities and up to 100 pounds of any of the other essential amino acids can now be obtained.

The Dowanols are obtained by the addition of alcohols to propylene oxide to give products such as 1-methoxy 2 propanol.

In the nitration of propane, conversion on a laboratory scale has been stepped up to 76 percent.

The Willstätter synthesis of cyclooctatetraene was repeated, and the product obtained is identical with that from the catalytic polymerization of acetylene.

Synthetic Rubber. Details of the manufacture of GR-S were published. Investigators separated GR-S into molecular weight fractions and determined the effect of the molecular weight on strength, processability, and tire wear.

1. *Latices.* Since early in 1948, the production of American-made latices has exceeded the consumption of natural latex in U.S. Processes were further developed for incorporating carbon black, oxidized lignin, and resins into synthetic latices.

2. *Low Temperature.* The outstanding development in American-made rubber during the year was the increased manufacture and use of copolymers of butadiene and styrene prepared at temperatures ranging from 0° F. to 41° F. instead of the 122° F. temperature which is used in the manufacture of GR-S. Low-temperature rubber, which contains less low-molecular-weight polymers, has a tensile strength and elongation equivalent to natural rubber, combined with resistance to abrasion and flex-cracking superior to GR-S.

3. *Monomers.* Substituted vinyl pyridines and butadiene make a rubber superior in several respects to GR-S. Butadiene was copolymerized with 11 different nuclearly substituted α -methylstyrenes, 20 halogenated styrenes, 2-vinylfuran, 2-vinylthiophene, methacrylonitrile, and vinylidene chloride.

4. *Production.* American-made rubbers averaged 41,000 long tons production per month, of which about 80 percent was GR-S. Consumption of American-made rubbers was about 41 percent of the total new rubber consumed in the United States.

5. *Rubber-Resin Mixtures.* There is a pronounced trend toward the use of mixtures of rubbers and resins. Copolymers of butadiene and styrene containing 80-95 percent of styrene were used extensively as reinforcing agents in crude rubber to increase hardness, rigidity and strength, and have found extensive use in footwear. Phenolic resins were incorporated in GR-S and in copolymers of butadiene and acrylonitrile to make leather substitutes, gasket materials, and adhesives. Extensive use was made of nitrile rubbers in vinyl chloride resins as auxiliary plasticizers.

6. *Specialty.* Emphasis was on the production of rubbers with special properties. Several types of butadiene copolymers were produced for electric insulation. Other specialty rubbers have non-staining properties, improved processing, and improved tack. Fabrication techniques were investigated to permit effective use of silicon rubbers, which possess good thermal stability from -70° F. to +500° F.

Tumor Enzymology. An enzymatic reaction occurs in liver and kidney by which a variety of 2,4-diketo acids yield pyruvic acid and a fatty acid: $R \cdot CO \cdot CH_2 \cdot CO \cdot CO_2H + H_2O \rightarrow R \cdot CO_2H + CH_3 \cdot CO \cdot CO_2H$. This reaction is suggestive of a possible pathway for the conversion of fat to carbohydrate. It is markedly diminished in all tumors studied.

The conversion of normal tissue into a cancer is accompanied by a considerable increase in the enzymatic capacity to hydrolyze the unsaturated peptide bond, $R \cdot CO \cdot N = CR' -$. The so-called dehydropeptidase activity of all tumors studied is extremely high. The significance of this observation, however, is still unknown. The saturated peptide bond, $R \cdot CO - NH \cdot CHR' -$, is also hydrolyzed with great rapidity in tumors, but only when R and R' are certain amino acid residues. Thus, glycylalanine is hydrolyzed in cancer tissues much more slowly than its isomer, alanylglycine. It is conceivable that the arrangement of amino acids in certain proteins of cancer tissues may be different from that of normal proteins.

Vitamin B₁₂ was isolated in crystalline form and early clinical investigations indicate that it is effective in doses of 0.001 milligrams per day in the treatment of pernicious anemia.

Spectrographic analysis shows the presence of cobalt. The red color of the compound appears to be associated with its cobalt-complex character. The isolation of similar red needle-like crystals was effected from liver by British workers, who confirmed the presence of cobalt. The presence of both phosphorus and nitrogen have been reported, but tests for sulfur were negative.

A growth factor requirement of *Lactobacillus lactis*, Dornic, has been reported which bears an almost linear relationship to the unit potency of the extracts used in the treatment of pernicious anemia. Clinical tests using impure concentrates were confirmed and a positive hematological response noted in two cases of Addisonian pernicious anemia to single injections of 6 and 15 micrograms of vitamin B₁₂ respectively. Favorable responses were obtained with its use in two cases of macrocytic anemia and one case of non-tropical sprue.

If so indicated, potent doses of the new vitamin may be given without physical discomfort to the patient and there is preliminary evidence that by the use of a sufficiently large single dose it may be possible to produce a prolonged remission in pernicious anemia. The need for frequent administration of large doses of liver extract may be eliminated.

Tests with chicks and rats indicate the possibility that vitamin B₁₂ is the animal protein factor.

Wood, Cellulose and Paper. Marked scientific and technologic progress in the fields of cellulose, paper, and wood has continued.

Two new rosin acids, neoabietic and isodextronicaric acids, have been isolated from *Pinus palustris*. A new 3-hydroxyflavanone was isolated from Douglas fir wood and shown to cause the wood to resist sulfite pulping in a manner similar to Erdtman's hydroxystilbene derivatives. Unusual 7-membered carbocyclic compounds, including dehydropiperillic acid, were found in Western Red Cedar and are believed to be partially responsible for the resistance of the wood to decay.

There is further evidence for the existence of a long repeating period (500 glucosidic linkages) in fibrous cellulose. Extensive studies were reported on methods of determining oxidized celluloses. Investigations of the distribution of substituent groups in cellulose esters and ethers were made; preferential substitution of the primary alcoholic group was

shown. Comparisons of methods for the determination of crystalline-amorphous ratios in celluloses showed that different results are obtained by chemical and physical means. An exchange reaction of cellulose with heavy water was suggested as a new means of measuring crystalline-amorphous ratio and the chemical method has been improved.

Improved methods have been developed for the separation of the carbohydrate fraction of wood (holocellulose) from lignin and have shown the beneficial effect of hemicelluloses on some of the properties of pulps. There is definite evidence for the presence of mannans in hardwood holocelluloses and that the resulting α -celluloses contain combined mannose units. Presumptive evidence for a bond between lignin and carbohydrate or wood was provided.

Progress has been made in the recovery and utilization of sulfite waste liquor. One pulp mill constructed a plant to use magnesium bisulfite as the cooking chemical and will evaporate and recover the inorganic chemicals. Ammonia-base liquor also is used by several companies. Alcohol is being made at two plants by direct fermentation, and construction was started on a plant to utilize the fermentable pentose as well as hexose sugars for the production of torula yeasts.

A large proportion of the world supply of vanillin continues to be made from sulfite waste liquor and lignosulfonic acids. Esters of vanillic acid were shown to be excellent food preservatives. Other derivatives of vanillin (5-hydroxymercurivanillin) show promise as disinfectants. The equivalent of one-third to one-half of the total fuel requirements of an integrated pulp and paper mill are provided by the combustion of the kraft black liquor.

Use of concentrated spent sulfite liquor as a supplement to tannin has increased considerably. So has its use as an adhesive in core binding in metal casting, briquets for smelting and fuel, and road conditioning.

The recovery of over 100,000 tons per year of fatty and resin acids from black liquor in kraft paper manufacture is now a general practice. Sulfate turpentine recovery is equal to the volume of gum turpentine obtained by the naval stores industry.

Use of melamine and urea-formaldehyde resins in kraft paper and board production has resulted in strong water-resistant containers adequate for overseas shipment and exposure to the weather and other adverse conditions hitherto beyond the power of fiber containers to resist. Multiwall bags are taking over the field of shipping containers. The supplemental bonding by gums, synthetic materials, and resins, at the points of fiber contact in the web, has created the possibility of paper of greater strength and the use of shorter fibered pulps in greater proportion in the production of paper of equal strength.

The difference between consumption and production is almost entirely made up by the duty-free importation of standard newsprint from Canada, Newfoundland, and Europe. This amounted to 8,957,000 tons in 1947 and 4,135,000 in 1948. In 1947, imports of paper and paperboard were 158,578 tons, and exports were 352,462 tons.

There are 95 million tons of fibrous agricultural residues destroyed annually, which are capable of economic use for the integrated manufacture of newsprint, book, tissue and fine papers, corrugating paper and paperboard, and wallboard. Utilization of only 5 percent of this agricultural fibrous material is sufficient for the supply of 22 large modern integrated paper and board mills capable of producing annually 2,400,000 tons of newsprint,

2,280,000 tons of corrugated paper and paper-board, and 2,340 million board feet of insulating structural wallboard.

Wood pulp production in the United States was reported by the Bureau of Census to total 11,153,052 tons in 1947. Imports in 1947 were 2,012,727 tons, whereas exports were 134,855 tons.

Credit for Source Material Supplied. J. L. Bray, Purdue Univ.; E. C. Britton, Dow Chemical Co.; J. M. Campbell, General Motors Corp.; H. W. Chadduck, Merck and Co.; A. K. Doolittle, Carbide and Carbon Chemicals Corp.; J. T. Edsall, Harvard Medical School; J. D. Edwards, Aluminum Company of America; C. Egloff, Universal Oil Products Co.; H. J. E. J. Univ.; J. P. Greenstein, National Institute of Health; P. H. Groggins, U.S.D.A.; E. Haenisch, Villanova College; H. B. Hass, Purdue Univ.; J. B. Hester, Campbell Soup Co.; E. W. D. Hufman, Merck Analytical Laboratories; E. H. Huntress, Massachusetts Inst. of Technology; R. W. Kerr, Corn Products Refining Co.; W. A. Kirklin, Hercules Powder; P. K. Knoefel, Univ. of Louisville; J. C. Krantz, Univ. of Maryland; S. Peat, Univ. College of North Wales; W. W. Pigman, Institute of Paper Chemistry; H. W. Post, Univ. of Buffalo; P. O. Powers, Batelle Memorial Institute; M. M. Renfrew, E. I. du Pont de Nemours and Co.; E. R. Riegel, Univ. of Buffalo; G. T. Seaborg, Univ. of California; R. N. Shreve, Purdue Univ.; H. N. Stevens, B. F. Goodrich Co.; L. A. Sweet, Parke, Davis and Co.; H. G. Swope, Argonne National Laboratory; A. F. Thompson, U.S. Atomic Energy Commission; B. M. Vanderbilt, Esso Laboratories; C. T. Walling, U.S. Rubber Co.; C. E. White, Univ. of Maryland; and C. C. Wright, Pennsylvania State College. —Ed. F. DEGERING

CHESS. With a score of 14-0, Mikhail Botvinnik, 36-year-old Russian grand master, easily won the world's chess championship, vacant since the death of Alexander Alekhine in 1946. The round-robin, first tournament ever held for the title, saw each of the five players meeting every other player five times. It was held in March, April, and May, at the Hague (two rounds) and at Moscow (three rounds). Vassily Smyslov, Botvinnik's countryman, surprised by taking second place (11-9), with Samuel Reshevsky of the United States and Paul Keres of the U.S.S.R. tying for third (10½-9½). Former world's champion Max Euwe of the Netherlands was a disappointing last (4-16). Reuben Fine of the United States, though invited, did not compete.

The principal international event, aside from the championship, was the interzonal tournament at Saltsjobaden, Sweden, where six of the first seven places were captured by the Russian contingent. Szabo of Hungary finished second to Bronstein, with Boleslavsky, Kotov, and Lilienthal qualifying for the 1949 tournament which will determine the challenger for Botvinnik's title. The five will meet the unsuccessful players of the 1948 championship tournament, including Fine as well.

International chess returned to New York for the first time since 1927 with a Christmas week tournament won by Fine over Najdorf, Pilnik, and Euwe, among others. In other international events, Szabo won the 1947-48 Hastings tournament; Prins led at Beverwijk; Elisaskes won the XI Mar del Plata tourney; Najdorf was first at La Plata and at Venice; Szabo again triumphed at Budapest; Foltys beat Barcza by a half-point at Carlsbad-Marienbad; Lundin took first prize at Bad Gastein; Rossolimo finished on top in the 1948-49 Hastings congress.

Herman Steiner became U.S. champion in a

round-robin at South Fallsburg, N.Y., while Weaver Adams took the U.S. Open at Baltimore in a Swiss system tournament. Mrs. Gisella Grosser and Miss N. May Kurlf tied for the U.S. women's championship. Arthur Bisguier was national junior champion, Robert Byrne both speed and intercollegiate (Yale) champion, City College of New York hunked ahead of Yale and Syracuse for the H. M. Phillips intercollegiate trophy.

Among the national champions were Julio Bolbochan (Argentina), C. J. S. Pindy (Australian Open), Galia (Austria), Devos (Belgium), Tsvetkov and Neikirch (Bulgaria), Richter and Zita (Czechoslovakia), Enevoldsen (Denmark), Rossolimo (France), Unzicker (Germany), Broadbent (Great Britain), Edith Price (British women's), P. Benko (Hungary), B. Moeller (Iceland—he won the Nordic chess championship as well, among players from Denmark, Sweden, Finland, and Finland), Castaldi (Italy), Euwe (Netherlands), Wade (New Zealand), Barta (Norway), Makareczk (Poland), Ekstrom (Sweden), Christoffel (Switzerland), Bronstein and Kotov (U.S.S.R.).
JEROME FINE

CHILDREN'S FUND OF MICHIGAN. A Fund established by James Couzens with a gift of \$10,000,000 in 1929 to promote the health, welfare, happiness, and development of children in Michigan, primarily, and elsewhere in the world. During the fiscal year ended Apr. 30, 1948, a total of \$752,910 was expended. Total assets on that date were \$4,779,162. Chief officer: Wm. J. Norton, 660 Frederick St., Detroit 2, Mich.

CHILE. A Republic of South America, divided into three geographic zones: the Andes, the central valleys, and the Coast. The North is arid, the central area temperate, and the South is wet and cold.

Area and Population. Area: 286,396 square miles. Population (1947): 5,522,000, of whom about 80 percent were of European descent; 15 percent mestizos, and 5 percent Indians. Principal cities: Santiago (capital), 639,546 inhabitants in 1940; Valparaiso, 215,614; and Concepción, 92,364.

Education and Religion. The constitution guarantees freedom of worship. Roman Catholicism is predominant. Spanish is the official language. Eighty percent of the total population is literate. In the academic year 1946-47, there were over 5,400 official primary schools with nearly 600,000 students. Chile has nearly 500 intermediate schools or institutions that could be classified as such. Higher education is provided by the National University of Chile, the University of Concepción, the Catholic University of Chile, the Catholic University of Valparaiso, and five other specialized institutions of higher learning.

Production. Chilean economy is closely associated with mining, especially copper and nitrates. Mineral production in 1947 was estimated at (metric tons): copper, 428,000; nitrate, 1,631,223; iron ore, 1,737,553; coal, 2,079,116. Other important minerals are gold, silver, manganese, mercury, molybdenite, lead, and tungsten. Important items of agricultural production in 1946-47 (metric quintals) were: wheat, 8,957,377; barley, 1,064,457; oats, 766,446; potatoes, 6,171,083; rice, 872,347; kidney beans, 824,530; sunflower seed, 291,857.

The cattle population was estimated at 2,385,641 head in 1946; meat production in 1947 amounted to 86,400 metric tons. Wine and chichas production totaled 202,861 liters in 1947. Principal lines of industrial production included cotton fabrics (22,808 metric tons in 1947). The following fig-

ures represent the production of the chief factories in 1946: wool fabrics, 5,773,195 meters; silk fabrics, 1,920,298 meters; hump and jute fabrics, 2,734,474 meters; footwear, 3,423,936 units; paper, 16,392,601 kilograms, and cement, 579,906 metric tons.

Foreign Trade. In 1947, total exports amounted to \$280 million; imports to \$270 million. Foreign trade for the first eight months of 1948 showed imports valued at 836.5 million gold pesos; exports at 925.7 million gold pesos (U.S.\$1.00 equals 4.85 Chilean gold pesos). Chilean foreign trade is mostly with the United States, Great Britain, Argentina, France, Italy, and Brazil. Exports of agricultural products in 1948 were estimated as substantially exceeding those of recent years, because exporters of farm products were permitted some advantages in the purchase of foreign exchange.

Finance. Budget estimates placed 1948 expenditures at 10,452 million pesos (one peso equals U.S. \$0.032); revenue at 9,618 million; the deficit to be met by special taxes created by the 1947 Emergency Financing Law. The 1947 budget showed revenue of 9,978,800,000 pesos; expenditure of 9,610,500,000 pesos. Chile's direct public debt at the end of 1947 was 7,661 million pesos; indirect debt, 1,767 million pesos. Currency in circulation on the same date was 3,677 million pesos; bank deposits, 7,965 million pesos; gold reserves, \$45,000,000. The cost of living index at the end of 1947 was 403 (1937 = 100).

Transportation. The country has 5,810 miles of railroad, which in 1947 carried a monthly average of 193,000,000 net ton-kilometers of freight. There are 29,921 miles of roads (1945), of which some 25,000 are fit for motor traffic. Chile is served by important national and international airlines through 6 civilian and 2 government airports. There are over 100 vessels flying the Chilean flag.

Government. Chile is a centralized republic of 25 provinces. Under the constitution of Sept. 18, 1945, the legislative power rests in a national Congress composed of a Senate of 45 members (elected for 8 years) and a Chamber of Deputies in the proportion of one for each 30,000 inhabitants (elected for four years). The President is elected for a 6-year term and is assisted by a Cabinet. On Sept. 4, 1946, Gabriel González Videla was elected President, and was inaugurated on November 31.

Events, 1948. The political life of Chile during the year was characterized by the strong anti-Communist stand taken by President González Videla, both on the domestic and international fronts; by the ultra-nationalistic line followed by the administration; and by the sensational claims made to the Antarctic region. All of this was a sharp departure from González Videla's political pre-election platform, when he courted the cooperation of the Communists and labor groups.

Politics and Poetry. Early in the year, the most significant event pointing out the gap existing between the leftist element and the Government was provided by the inflammatory speeches made in Congress by Communist Senator Pablo Neruda. One of the most outstanding poets in Latin America, Neruda is well-known in international literary circles. When he attacked the Government various Senators started a movement to cancel his credentials on the grounds of defamation, and he was deprived of his parliamentary immunity, thus opening the door to legal action against him. Neruda appealed to the Supreme Court and later, when he was sentenced by a lower court, took asylum in the Mexican Embassy, fearing an attack on his life. This caused diplomatic tension between the Mexi-

can and Chilean governments, which was later eased when the Mexican Ambassador explained that Senator Neruda was not a political refugee but merely his guest.

The Neruda incident was followed by a series of anti-Communist measures taken by the Government. President González Videla introduced a bill in Congress asking for adequate legislation on the following points: proscription of the Communist Party and the Confederation of Chilean Workers (C.T.Ch.), a strong Communist organization; creation of a new federation of workers under the auspices of the Socialist Party; dismissal of all Communists from public offices and administrative positions in labor unions; disenfranchisement of all persons belonging to the Communist Party. The Communists, from their newspaper *El Siglo*, fought the proposed legislation and claimed that the Government had arrested more than 1,000 workers and kept them in concentration camps without due process of law. Shortly thereafter, Videla's Government was accused by various non-Communist newspapers in Mexico and the United States of being the only Latin American country maintaining concentration camps for political prisoners, among whom were many Loyalist Spanish refugees who came to Chile after the Spanish Civil War.

Cabinet Reshuffling. On June 22, there was a large popular demonstration protesting against the high cost of living. No disturbances were seen, but the Government ordered the arrest of various labor leaders, accusing them of instigating the movement. Meanwhile, the anti-Communist legislation was being discussed in Congress where it met opposition from non-Communist groups, especially from Arturo Alessandri, ex-President of the Republic and father of the present Chilean Constitution, and from Eduardo Cruz Coke, presidential candidate of the Conservative Party in 1946.

President Videla held a series of meetings with leaders of the Liberal and Conservative parties, and on July 7 reorganized his Cabinet, bringing in representatives of various parties with the purpose of strengthening his position. In so doing, he deviated from the non-partisan policy which he had been following in his Cabinet during past years. In the new Cabinet, key posts were retained by non-partisans; two seats went to the Radical Party, two to the Liberals, and two to the Conservatives.

Anti-Communist Legislation. On September 3, the Government promulgated the "Law for the Defense of Democracy" containing the restrictive measures against Communists. The law had finally been approved by the Chamber after various amendments introduced in the Senate. Although it called for the "defense of democracy," it was labelled by the opposition as a "Law for the Offense of Democracy." The act takes away all political rights of the Communist Party, but permits the 15 deputies and 5 Senators elected in 1946 to serve out their terms. However, no Communist may be a candidate in the 1949 elections. Parliamentary debates and voting on the law caused division within the political parties considered as conservatives. Some Socialists voted against the measure and, as mentioned above, a large group of Conservatives under the leadership of Senator Eduardo Cruz Coke opposed the measure. This Conservative faction, called Social Christians, is formed by Catholics who advocate social reform and by a number of university students.

The relations between Poetry and Politics which enlivened the early months of the year with the

Neruda incident continued when the national literary award for 1948 was given to the poet Angel Cruchaga, a close friend of Neruda's, and considered a Communist sympathizer. During the festivities for the bestowal of the prize, veiled reference to Neruda brought storms of applause.

International Front. Early in the year, President González Videla made a spectacular claim in the name of his country to a part of the Antarctic territory south of the 62nd parallel. This met with opposition from Great Britain, who sent the battleship *Nigeria* to patrol Antarctic waters. Chile pressed the claim at the Bogotá meeting of American States (see PAN AMERICAN ACTIVITIES).

—MIGUEL JORRÍN

CHINA. The territory of the Republic of China is bordered by Korea, Siberia, Mongolian People's Republic, Soviet Turkestan, Afghanistan, India, Burma, French Indochina and the Pacific Ocean. In May, 1947, the Ministry of Interior gave the area of China at 9,739,288 square kilometers (3,760,339 sq. mi.), divided among 35 provinces, 1 territory and 8 municipalities as shown in the accompanying table.

Division	Sq. km.	Division	Sq. km.
Kiangsu	108,315	Antung	63,422
Chekiang	102,046	Liaopei	123,315
Anhui	140,087	Kirin	87,285
Kiangsi	173,014	Sungkiang	80,789
Hupeh	186,303	Hokiang	123,620
Hunan	204,771	Hsichang	108,295
Szechwan	303,318	Nunkiang	66,067
Sikang	451,521	Hsingsan	258,362
Hopei	140,253	Jehol	179,082
Shantung	146,737	Chahar	283,675
Shansi	156,420	Suiyuan	320,397
Honan	165,141	Ninghsia	233,320
Shensi	187,909	Sinkiang	1,711,031
Kansu	391,506	Tibet ^a	1,215,781
Chinghai	667,236	Nanking ^b	779
Fukien	117,977	Shanghai ^b	893
Taiwan	35,961	Peiping ^b	707
Kwangtung	218,765	Tientsin ^b	185
Kwangsi	218,924	Tsingtao ^b	749
Yunnan	420,466	Chungking ^b	800
Kweichow	170,190	Shenyang (Mukden) ^b	220
Liaoning	67,259	Harbin ^b	930

^a Territory. ^b Municipality. Note: The areas of the Independent municipalities: Dairen, Sian, Hankow and Canton are included in those of the provinces: Liaoning, Shensi, Hupeh and Kwangtung respectively.

Population. China's total population for the first half of 1948 was put by the National Census Bureau of the Ministry of Interior at 463,493,418, representing a slight increase of 695,325 over that for the second half of 1947 and of 2,487,133 over the estimate made in July, 1947. The statistics made public by the Ministry of Interior in July, 1948, show that there are more males in China than females, the former totaling 242,273,893 and the latter, 221,219,525.

The population of Szechwan is the largest among the provinces, amounting to 47,437,387 inhabitants. Shantung stands next, with a population of 38,865,254 and Kiangsu takes the third place, being inhabited by 36,000,123 people. Those provinces of over 20 million people include Honan, Hopei, Kwangtung, Hunan and Hupeh, while only 327,563 people live in Hsingsan Province in the Northeast.

As to the 12 special municipalities, Shanghai takes the lead in claiming a population of 4,630,385. Next comes Tientsin and Peiping with 1,772,840 and 1,721,546 respectively. Nanking, China's capital, has 1,113,972 dwellers, while Canton and Mukden are populated by over one million people each.

Among the 177 cities of 50,000 or more people,

there are 7 cities having more than a million residents; 10 cities with 500,000 to 1,000,000 people; 25 cities with 200,000 to 500,000; 49 with 100,000 to 200,000; and 86 cities with 50,000 to 100,000. Thirty-three of these cities are concentrated in the North China plain. There are 31 density cities in the Northeast and 26 in the Shanghai-Nanking area. Scattered down the southeastern sea coast are 21 cities and along the Yangtze River, 18. On the average, China has a density of 47.35 per square kilometer.

Among the provinces Kiangsu has the highest population density with 332.93 persons per square kilometer. A density of 267.74 is found in Shantung, the second most-crowded; 204.84 in Hopei; 187.25 in Chekiang; 177.52 in Taiwan; 177.14 in Honan; 158.46 in Anhwei; 155.31 in Szechwan; and 2.36 in Sinkiang. Tibet is the most sparsely populated area—having a population density of 0.82 per square kilometer.

Tientsin stands out as the most thickly populated city in China having 9,103.65 people per square kilometer and Hankow with 5,608.79 ranks the second. Canton has a density of 5,581.28; Mukden, 4,894.82; Shanghai, 4,814.58; Dairen, 3,730.03; Chungking, 3,314.81; Sian, 2,844.48; Peiping, 2,268.00; Nanking, 1,392.71; Tsingtao, 1,050.43 and Harbin, 818.08.

In July, 1948, the Ministry of Interior recorded the populations of the 35 provinces, 1 territory and 12 important municipalities as follows:

Division	Population	Division	Population
Kiangsu	36,080,123	Kirin	6,465,449
Chekiang	19,958,715	Shanghai	2,570,806
Anhui	22,462,217	Hokiang	1,841,000
Kiangsi	12,500,912	Hsichang	2,844,211
Hupeh	20,975,559	Nunkiang	3,333,400
Hunan	25,557,928	Hsingsan	327,563
Szechwan	47,437,387	Jehol	6,106,147
Sikang	1,096,060	Chahar	2,185,774
Hopei	28,719,057	Suiyuan	2,233,236
Shantung	38,865,254	Ninghsia	759,002
Shansi	15,247,050	Sinkiang	4,047,452
Honan	20,654,085	Tibet ^a	1,000,000
Shensi	10,011,201	Nanking ^b	1,113,972
Kansu	7,090,517	Shanghai ^b	4,630,385
Chinghai	1,307,719	Peiping ^b	1,721,546
Fukien	11,143,083	Tientsin ^b	1,772,840
Taiwan	6,384,019	Tsingtao ^b	850,308
Kwangtung	27,209,968	Chungking ^b	985,673
Kwangsi	14,630,337	Canton ^b	1,128,005
Yunnan	9,065,921	Hankow ^b	721,598
Kweichow	10,173,750	Sian ^b	628,449
Liaoning	10,007,204	Shenyang ^{b,c}	1,021,057
Antung	2,992,305	Dairen ^b	548,690
Liaopei	4,627,841	Harbin ^b	760,000

^a Territory. ^b Municipality. ^c Also called Mukden.

Education. For the first six months of 1948, 13 percent of the national budget was allocated for educational and cultural purposes, as against only 8.2 percent in the previous year. This greatly increased appropriation is an attempt to conform with the Chinese Constitution which specifies that expenditure for educational, scientific, and cultural activities shall not be less than 15 percent of the national budget.

During the academic year from August, 1946, to July, 1947, there were 290,617 primary schools in China, with an enrollment of 23,813,705. There were 4,687,411 children who finished their elementary education in the same period. The faculty members of all primary schools totaled 880,555.

Beginning 1949, the Ministry of Education plans to launch a ten-year program of extending primary school education to more of China's children. The ten-year program provides for compulsory education for children between the ages of six and twelve. Textbooks are to be supplied free of charge to those from poor families. The Ministry

of Education during the past undertook two similar projects. The first was conducted from 1940 to 1945, with 251,596 primary schools established and with an aggregate enrollment amounting to 18,692,282.

The second five-year project was started in 1946. This postwar plan, however, has been handicapped by lack of funds. It subsequently will be shelved in favor of the new ten-year plan. At present, of China's 67,000,000 school-age children, only 23,813,705 or less than 50 percent are attending primary schools.

The Ministry of Education estimated (in April, 1948) that 78,189,887 illiterate adults were taught to read and write. There are still approximately 170,000,000 illiterates in China, who constitute about 39 percent of China's population.

Secondary schools in China numbered 5,892 in 1947, with an enrollment totaling 1,878,523. There were 399,465 students who graduated from secondary schools in 1947. Teachers and staff members of secondary schools totaled 143,502.

Universities and colleges in China numbered 74 in 1928 and 108 in 1937. In 1947 there were 194 institutions of higher learning. The total enrollment in the colleges and universities in 1947 was 129,224, twice the number before the war. According to a report to the National Assembly made in April, 1948, by Dr. Chu Chia-hua, Minister of Education, the number of universities and colleges have been increased to 207, with the total enrollment of 148,000. There were 25,657 students who graduated from universities and colleges in 1948.

In July, 1948, a total of U.S.\$3,420,000 worth of UNRRA educational rehabilitation supplies was distributed among 77 universities and colleges. The 1,300 tons of supplies represent some of the latest American engineering, medical, agricultural, and scientific laboratory apparatus and equipment.

The Ministry of Education disclosed in September, 1948, that up to the end of August, more than 36,000 refugee students from the Communist occupied areas had registered for relief in Nanking, Hankow, Tientsin, and Peiping. The Ministry's first function was to provide the youths with food, shelter and school. Six temporary middle schools were established for them in central China. The educational authorities were planning to establish a temporary college and three middle schools in Peiping. All these institutes were to be staffed by refugee teachers.

Religion. Under the laws of the Republic of China, every person has undisputed freedom of religious belief. Confucianism is still influencing the Chinese way of life. The teachings and philosophy of Confucius and his followers are embodied in the Four Books and Five Classics. On May 31, 1934, the Chinese Government designated August 27, the birthday of Confucius, as a national holiday, and later the day was also designated as Teacher's Day.

Taoism began as a philosophy, but later developed into a religion. As a philosophy it is traced to Lao Tze, born in 604 B.C. Priests of Taoism are known as Tao Shih. They have their own temples, rituals, and bible. Buddhism first came to China in A.D. 61. It is estimated that at present there are in China more than 267,000 Buddhist temples and 738,000 monks and nuns, while the number of laymen and laywomen who have taken the five vows is five times more, but it is difficult to estimate the number of believers.

Lamaism is a form of Buddhism believed in by peoples of Tibet and Mongolia and is a mixture of Buddhism and Shamanistic practices. The Dalai Lama is the spiritual head of Tibet, and next to

him is the Panchan Lama. Directly under the Dalai Lama are three great monasteries in and around Lhasa—the Djerpung Monastery with four abbots and 7,700 lamas, the Sera Monastery with three abbots and 5,500 lamas, and the Gandin Monastery with two abbots and 3,300 lamas.

Mohammedanism made its advent in China in A.D. 651, when the governments of the Muslim nations began to pay tribute to the Tang Emperor. The total number of Moslems in China was estimated at 48 million. Some authorities place the number at from 10 to 15 million.

For the Protestant Missions in China the National Christian Council is designated as the central agency. The Council has 18 constituent church bodies and a number of affiliated national organizations. There are no accurate figures of churches in China, but before the war there were approximately 10,000 organized Protestant churches with 512,000 members and 10,000 other centers of worship in China.

The Catholic Church controls mission stations in 33,354 localities in China. Catholic Missionaries, of whom there are 13,330, including priests, sisters and lay brothers, employ or receive free service from a trusted lay staff of 100,000 mission helpers, catechists, teachers, nurses, and doctors. By the end of 1944, there were in all China 123 Catholic bishops of whom 25 were Chinese, and 6,000 Catholic priests.

Production. The Ministry of Economic Affairs reported in May, 1948, that there were 14,078 factories in China. Some 7,738 of these factories are located in Shanghai. The Ministry's report indicates a greater number of light industries over the heavy industries. There are 3,773 textile factories; 1,783 clothing; 1,505 machines; and 494 metal refineries. Only 3,312 of the factories were adhering to the national factory list. There was a total of 682,399 factory workers, of whom 367,433 were in Shanghai.

In 1947, the principal industrial products were: machine tools, industrial machines, motors, soda ash, sulfuric acid, hydrochloric acid, nitric acid, bleaching powder, flour, and cotton yarn. The mineral output in 1947 was as follows: coal, 19,487,400 metric tons; petroleum: 967,662,000 gal. of crude oil, 7,880,000 gal. of gasoline, 4,002,258,000 gal. of kerosene, and 54,600,000 cu. ft. of natural gas.

In 1947, the output of steel was 63,000 metric tons and that of iron, 35,733 metric tons. The total electric power supply of China in 1947 was 1,287,620 kw. China's cotton textile industry had about 6,000,000 spindles in 1947.

The agricultural products in 1947 were: rice, 47,928,750 metric tons; wheat, 25,028,800 metric tons; millet, 7,162,000 metric tons; barley, 7,901,100 metric tons; corn, 7,606,600 metric tons; sweet potatoes, 24,164,450 metric tons. In 1947, the estimated totals of livestock in China were: buffaloes, 9,320,000; oxen, 18,998,000; horses, 2,069,000; mules, 2,007,000; donkeys, 7,667,000; goats, 18,609,000; sheep, 9,191,000; hogs, 53,758,000; chickens, 196,743,000; ducks, 44,372,000; geese, 7,244,000.

Foreign Trade. China's import trade amounted to Ch.\$10,681,326,574 and her export trade, Ch.\$6,376,504,297 in 1947, with an unfavorable balance of Ch.\$4,304,822,277. More than 60 percent of China's exports have been agricultural products. According to statistics released in July, 1948, by the Chinese Customs Administration, the nation's foreign trade deficit for the first five months of 1948 had been mounting. The unfavorable balance

for May was Ch.\$5,156,021,506,000. The month's imports totalled Ch.\$12,837,367,158,000; the exports, Ch.\$7,681,315,652,000. If converted into U.S. currency on the basis of Ch.\$1,000 to U.S.\$0.00257, the net value of imports would be U.S.\$32,992,033 and that of exports, U.S.\$19,471,058. The deficit then would be U.S.\$13,520,975. When compared with the figures of the four preceding months, it shows that the unfavorable balance is on the upgrade. The deficit for the first four months was U.S.\$28,173,963, averaging about U.S.\$7,043,490 each month.

China's principal buyer and seller is the United States. During the first five months of 1948, China bought 49 percent or Ch.\$15,339,000,000,000 worth of imports from the U.S. Her exports to the U.S. amounted to Ch.\$4,505,000,000,000 or 22.6 percent of all her exports for that period.

Finance. Finance Minister O. K. Yui reported on Jan. 3, 1948, that the 1947 Chinese Government expenditure reached 41 trillion Chinese dollars, four-and-a-half times the original estimation of 9.3 trillion. The total revenue was increased by less than twice the original 7 trillion. Mr. Yui pointed to the unchecked inflation and the Communist rebellion as reasons for the failure to adhere to the budget.

The budgetary estimates for the first six months of 1948 prepared by the Office of Comptroller-General called for a total expenditure of Ch.\$96,276,600,410,000, while the national revenue of the same period was estimated at Ch.\$58,340,896,970,000. The estimated revenue covered approximately 61 percent of the total expenditure.

By executive order, issued on Aug. 12, 1948, the Government's budgetary figure for its ordinary revenue and expenditures for the second half of the year was made public as Ch.\$323,621,500,986,000. This so-called "ordinary" budget must be distinguished from the "special" budget which covered the Government's military and other emergency funds to prosecute the war against the Communists. Information concerning the "special" budget, however, was withheld from publication.

Of the budgeted revenue, the amount of Ch.\$302,832,455,186,000 was expected to be derived from regular revenues with the remaining Ch.\$20,789,045,500,000 from extra revenues. The biggest revenue was expected from the commodity tax which was estimated at Ch.\$112,700,000 million for the six-month period. Customs revenues ran a close second with Ch.\$100,900,000 million. The next two items of revenue were profits of state-operated enterprises, approximately Ch.\$30,780,000 million; the income tax, Ch.\$19,700,000 million.

On the expenditure side, the budget for the Ministry of National Defense called for more than Ch.\$133,000,000 million. Nearly Ch.\$50,000,000 million was budgeted for the Ministry of Education, Ch.\$37,000,000 million for repayment of Government debts, and more than Ch.\$35,000,000 million for the Ministry of Food.

Open-market foreign exchange rate between Chinese and American dollars was revised on Jan. 12, 1948, as Ch.\$113,500 to U.S.\$1. At the beginning of August, 1948, the rate was further revised to Ch.\$4,600,000 to U.S.\$1.

President Chiang Kai-shek on Aug. 19, 1948, issued a mandate governing: (1) the issuance of a new currency to be called Gold Yuan; (2) the surrender by the people of all gold, silver coins, and foreign currencies; (3) the declaration by Chinese nationals of their assets in foreign countries; and (4) the tightening of economic control. Four

sets of measures for the enforcement of the emergency financial and economic reforms were promulgated in the mandate which went into immediate effect.

The Gold Yuan is a managed currency backed by U.S.\$200 million in gold, silver, and foreign exchange in the possession of the Government and U.S.\$300 million in real estate Government properties. The Gold Yuan notes are in the denominations of CY\$1, 5, 10, 50 and 100. Each Gold Yuan is valued at U.S.\$0.25.

The old national currency was to be withdrawn from circulation in November, 1948. Each Gold Yuan would exchange for \$3 million old national currency. Public reaction toward the new currency reform program was favorable. According to the *Nanking Central Daily News* of Oct. 2, 1948, over U.S.\$500 million were collected within one month after the enforcement of the new currency reform. This sum represents approximately U.S.\$130 million surrendered in exchange for Gold Yuan notes; U.S.\$300 million transferred to the Central Bank of China by other Government banks; U.S.\$10 million surrendered by commercial banks and firms, and U.S.\$18 million realized from Chinese exports between August 23 and September 30. The official rate of exchange between Gold Yuan and U.S. dollars was revised on Nov. 11, 1948, to CY\$20 to U.S.\$1. The conversion of the Gold Yuan notes into gold and silver dollars commenced on Nov. 22, 1948. As a result, commodity prices came down in seven principal cities.

Transportation. As Minister of Communications Yu Ta-wei reported to the National Assembly in April, 1948, China today has about 13,000 kilometers out of 35,000 kilometers of railways in operation. When the Chinese Government moved into the Northeast after V J Day, it found only 200 kilometers out of 11,000 kilometers of railways in use. It repaired 3,000 kilometers and put them back into service, but Communist destruction has left only about 600 operative kilometers.

On Sept. 1, 1948, both the Chekiang-Kiangsi railway and the Nanking-Wuhan line were open to through traffic in West China. The restoration of the 1,153 kilometer Chekiang-Kiangsi line, leading from Hangchow in Chekiang, to Chuchow in Hunan, on the Canton-Hankow line is a matter of great significance. The line completes the last link of an important rail network, joining the Nanking-Shanghai area with China's south and southwest.

Starting from Nanking, a passenger today may reach Hangchow via the Nanking-Shanghai-Hangchow line. From Hangchow he boards a train of the Chekiang-Kiangsi line and eventually finds himself at Chuchow, a point on the Canton-Hankow line. He may continue on until he arrives at Kowloon, situated opposite of Hong Kong, after having travelled by rail a total distance of 2,000 kilometers.

If the traveller is westward bound, he may change trains at Hengyang and ride for 538 kilometers until he goes to Liuchow, big town of Kwangsi Province. From there, he has 460 kilometers to make to finish the whole length of the Kwangsi-Hunan-Kweichow line terminating at Tuiyuan, which is only a short distance from Kweichow, capital of Kweichow Province.

Through traffic on the Canton-Hankow and Peiping-Hankow railways was inaugurated on Nov. 1, 1948. Trains on this through trip would make stop-overs at Hengyang, Changsha, Hankow, Yunnan, Kwangshui and Hsingyang. At Hankow the traffic on the two rail lines would be connected by trucks.

On the 530-kilometer Chungking-Chengtu railway in Szechwan now under construction, over 30 bridges and six-tenths of the entire project have been completed. A sum of C¥\$82 million was allocated by the Executive Yuan on Sept. 29, 1948, to the Chengtu-Chungking railway for its completion within three years.

According to a report made public by the Ministry of Communications in May, 1948, there are today 131,912 kilometers of highways in China, an increase of 16,210 over the prewar total of 115,702 kilometers. Of the over-all total figure, only a total 72,604 kilometers was in a usable state. The remainder was torn up by the Communists. The Government repaired 25,166 kilometers but 7,708 kilometers were again destroyed by the Communists.

During the last war, 16,298 kilometers of highways were constructed. With the restitution of Taiwan, China received 3,690 kilometers of highways on the island, but it lost 3,778 to Outer Mongolia. It was reported in September, 1948, that there were 50,000 civilian automobiles in operation in China at that time and the consumption of gasoline was 4,270,000 gal. per month, of which the Standard Vacuum Oil Company supplied nearly 1,120,000 gal.

China's merchant shipping reached the total tonnage of 1,030,000 tons by the end of 1947, according to an announcement made in May, 1948, by the Yangtze Navigation Administration. Before the war the total Chinese and foreign merchant shipping tonnage in China was 1,280,000 tons, only 250,000 tons over the present tonnage of Chinese shipping. During wartime, the tonnage of Chinese Merchant shipping was reduced to 80,000 tons.

Gen. Claire L. Chennault's former CNRRA Air Transport Squadron became a commercial airline in March, 1948. By order of the Executive Yuan, this new company, known as the Civil Air Transport, was granted permission to extend its operation in China for one year, ending December, 1948. Gen. Chennault's CNRRA Air Transport Squadron was first inaugurated in October, 1946, and capitalized at U.S.\$3,000,000 (which came from UNRRA as a grant). On July 18, 1948, China's two leading airlines, the China National Aviation Corporation and the Central Air Transport Corporation, announced the suspension of their Nanking-Shanghai run and a reduction of flights on other routes because of the exorbitant cost of gasoline. The two aviation companies are state-operated. Twenty percent of CNAC's shares are owned by Pan American World Airways. Both depend entirely on foreign oil companies for their gasoline consumption.

Government. The Republic of China was established on Jan. 1, 1912, but the present National Government was inaugurated in 1928 in Nanking by Kuomintang or the National People's Party. Since then, the Kuomintang exercised the governing powers on behalf of the Chinese people, and the National Government was responsible to the Party. The party rule was brought to an end on Dec. 25, 1947, when the Constitution of the Republic of China, adopted by the National Assembly on Dec. 25, 1946, and promulgated by the National Government on Jan. 1, 1947, became effective on the Christmas Day of 1947.

The core of the new constitutional system, following the theory of Dr. Sun Yat-sen's teachings, is the organization of the central government in five separate branches, each charged with one of the "governing powers." In addition to the usual executive, legislative, and judicial branches, there

are two other units, exercising the powers of examination and control, following the precedent of two traditional Chinese institutions, remodeled to form parts of a modern democratic government. The Examination Yuan is charged with the responsibility of holding examinations for public functionaries. The Control Yuan exercises the powers of impeachment and auditing, besides the power of consent. Under the new Constitution, the President and the Vice-President of the Republic of China are elected by the members of the National Assembly which is composed of about three thousand representatives elected by the people. The President has the power to appoint, with the consent of the Legislative Yuan, the President of the Executive Yuan; and upon the recommendation of the latter, the Vice-President, Heads of various Ministries and Commissions, and Members without portfolio, of the Executive Yuan. He also appoints, with the consent of the Control Yuan, the President, the Vice-President, and Grand Judges of the Judicial Yuan; similarly, the President, the Vice-President, and Examiners of the Examination Yuan.

Generalissimo Chiang Kai-shek was elected the first President of the Republic of China under the new Constitution by the National Assembly on Apr. 19, 1948. Gen. Li Tsung-jen was elected China's Vice-President on April 29. After being sworn in on May 20, President Chiang, appointed Dr. Wong Wen-hao, a noted geologist, as the President of the Executive Yuan, and the appointment was confirmed on May 24 by the Legislative Yuan. On May 31, Premier Wong announced the formation of a new Cabinet. The Executive Yuan was reorganized in November, 1948 with Dr. Sun Fo as Premier. The Executive Yuan is the highest administrative organ of the National Government, and has 15 ministries, 3 commissions, and a Government Information Office. There are 5 to 7 ministers without portfolio in the Executive Yuan. The Heads of the present National Government are as follows: President of the Republic of China, Chiang Kai-shek; Vice-President of the Republic of China, Li Tsung-jen; President of the Executive Yuan, Sun Fo; President of the Legislative Yuan, Tung Kwan-hsien; President of the Judicial Yuan, Wang Chung-hui; President of the Examination Yuan, Chang Po-ling.

Events, 1948. China's Election. China's popularly elected first National Assembly following the promulgation of the Constitution met in Nanking on March 29. The most important item on the Assembly's agenda was the election of the President and Vice-President of the Republic of China. According to the Constitution, the Assembly shall have a membership of 3,045. When the Assembly opened, 1,629 delegates had registered, enough to open the Assembly. It was expected that some 2,670 delegates would attend, more than enough to form a quorum.

On April 19, Generalissimo Chiang Kai-shek was elected President by the Assembly by an overwhelming majority of 2,430 votes out of the total of 2,704. Chu Cheng, President of the Judicial Yuan and the only other candidate in the Presidential race, received 269 votes. Thirty-five of the ballots were declared void. The Assembly met the announcement of President Chiang's election with applause. Meanwhile, national flags, firecrackers, and red congratulatory posters greeted the announcement in Nanking, the nation's capital. The same enthusiastic response was also reported from other Chinese cities. The election was termed by American, British and Canadian ambassadors who witnessed the proceedings as carefully planned,

efficiently supervised and openly and orderly conducted.

The election for the Vice-President, however, was a bitter fight which lasted through four ballots. There were six candidates in the race: Sun Fo, the incumbent Vice-President; Gen. Li Tsung-jen, director of the President's Headquarters in Peiping; Gen. Cheng Chien, Director of the President's Headquarters in Hankow; Yu Yu-jen, President of the Control Yuan; Mo Teh-hui, non-partisan State Council; and Hsu Fu-lin, a leader of the Democratic-Socialist Party. The final vote took place on April 29 and was a contest between Li Tsung-jen and Sun Fo. Li won with 1,438 votes against Sun's 1,295. Gen. Li Tsung-jen was thus chosen China's Vice-President.

The National Assembly also adopted four temporary provisions granting emergency powers to the President during the Communist-suppression period.

Cabinet Changes. Premier Chang Chun and his entire Cabinet resigned in May on the eve of the installation of President Chiang Kai-shek as the first constitutional President of China. Premier Chang and the Cabinet members signed their resignation document on May 11 as the last item of business of the administration.

Dr. Wong Wen-hao, 59-year-old chairman of the National Resources Commission, was nominated Premier by President Chiang Kai-shek on May 24, and his nomination was confirmed by 489 out of a total of 603 votes cast in the Legislative Yuan the same day.

On May 31, Premier Wong announced the formation of a new Cabinet which was composed of the following: Premier, Wong Wen-hao; Minister of Interior, Chang Li-sheng; Minister of Foreign Affairs, Wang Shih-chieh; Minister of National Defense, Ho Ying-chin; Minister of Finance, Wang Yun-wu; etc.

In November, the difficulties encountered in the enforcement of the Financial Reform and Economic Control measures promulgated on August 19 prompted Wong Wen-hao, President of the Executive Yuan, to resign. On November 26, Dr. Sun Fo, President of the Legislative Yuan, was nominated and voted into the post. The new Premier is the son of Dr. Sun Yat-sen, the founder of the Chinese Republic.

Economic Measures. Pursuant to a resolution reached by the Executive Yuan, President Chiang Kai-shek issued in Nanking on August 19 a mandate governing (1) the issuance of a new currency to be called Gold Yuan; (2) the surrender by the people of all gold, silver coins, and foreign currencies; (3) the declaration by Chinese nationals of their assets in foreign countries; and (4) the tightening of economic control. In a message issued on August 21, the President instructed all provincial governors and mayors to implement the economic and financial measures thoroughly.

Premier Wong Wen-hao on August 22 issued an order to all provincial governors and mayors asking them to rigidly enforce the regulations freezing commodity prices and wages at the August 19 levels.

The Executive Yuan on November 1 adopted four measures supplementing the August 19 economic program. The new measures partially eased controls on a number of essential commodities, especially food. Many price ceilings were taken off. Taxes were increased. On November 10, additional economic measures were adopted to cope with the monetary and food situation.

The National Economic Council in Nanking on

May 6 approved the circulation of silver coins in the country. The Chinese dollar was banned in 1935 when the country adopted a managed currency. Recently, the silver dollars reappeared on the money market.

China instituted a managed gold standard currency called "gold Yuan" on August 19. The new currency notes went into circulation on August 23 in all major cities where the people began surrendering gold, silver and foreign exchange for the new currency.

Civil War. In 1948, the Government troops have suffered defeat after defeat in fighting against the Communist army. Yenan, Communist headquarters captured on Mar. 17, 1947, was evacuated by Government troops on April 21. Tsinan, capital of Shantung Province and major rail and industrial center of North China, fell to the Communists on September 24 after a 9 day assault. Government forces besieged in Tsinan sector were estimated at 80,000. On October 23, the Communists claimed capture of Chengchow, Honan railway junction and Paotow, western terminus of Peiping-Suiyuan Railway. Kaifeng, capital of Honan, fell into Communist hands on October 25. The Government confirmed on October 30 the collapse of Mukden's defenses and abandonment of the city to the Communists.

By the end of the year, all the Northeastern Provinces (Manchuria) fell to the Communists. In North China, the Government troops only hold the Peiping-Tientsin area under the control of Gen. Fu Tso-yi, Taiyuan area under Gen. Yen Hsi-shan, and Tsingtao where the U.S. naval base is located. In the first part of November, Nanking and Shanghai were placed under martial law by President Chiang as Communists threatened to sweep past Hsuehow to attack both cities. Americans were urged to leave Nanking. The National Government in Nanking announced on November 11 that 1,000,000 men were locked in battle of unprecedented scale on a 200-mile front in the Hsuehow area. On December 1, the Government troops made a tactical move to relieve Communist pressure on Pengpu, 100 miles north of Nanking. They evacuated the city of Hsuehow and marched southward to break up the Communist forces from the rear. The Government spokesman admitted on December 7 that Communist armies had encircled 110,000 Government combat troops southwest of Hsuehow. They were trapped by the Communists as they marched south from Hsuehow to rescue other encircled Government forces.

Information from neutral sources indicates that the military forces on each side in the civil war are now about equal after the Government superiority was cut by large losses in the Northeast. Both the Government and Communists have about 1,500,000 regular fighting troops. However, the Communists put the present Government armed forces at about 2,900,000 men including Army, Navy, Air Force personnel, regular Army troops, and irregulars. They claim that the strength of Communist forces had been increased from 1,200,000 in June, 1946, to 2,800,000 in June, 1948. They further claim that at present the Communist Army has grown to more than three million strong.

Tungting Flood. Eleven counties around Tungting Lake in Hunan province were flooded in June as a result of incessant rain and an unprecedented typhoon. About 30,000 acres of rice fields were damaged. The rice crop of 1948 was expected to suffer a loss of over 1,000,000 metric tons. More than 3,000,000 people suffered from the effects of the flood.

China-U.S. Relations. On Dec. 16, 1947, the board of directors of the United States Education Foundation in China met for the first time in Nanking. The foundation, established to administer the 20-million-dollar cultural exchange program between China and the United States as authorized by the Fulbright Act, has five directors and four Chinese advisors, headed by Dr. J. Leighton Stuart, American Ambassador to China. The program calls for 20 years of educational exchange to be financed by funds realized from the sale of U.S. surplus property to China.

Francis Cardinal Spellman of New York arrived in Shanghai May 31 on his tour of Catholic centers in the Far East. He was welcomed by a large gathering headed by Archbishop Paul Yipin. He was President Chiang Kai-shek's dinner guest during his stay in Nanking.

Roger D. Lapham, Economic Cooperation Administration's China director, and Charles L. Stillman, head of the Administration's technical group, arrived in Nanking on June 8. They reached China from San Francisco with ten reconstruction survey experts.

A 2,180-ton tanker and two mine-sweepers, all donated to the Chinese Navy by the United States as gifts, arrived at Kaohsiung, Taiwan, on June 23 from the Philippines. These ships formed the first group of the 22 naval vessels anchored in Philippine waters to be transferred to China by the United States.

The Sino-American bilateral agreement covering the U.S. aid to China was concluded in Nanking on July 3. The agreement represented the final step in diplomatic negotiations which began on April 30 when Dr. V. K. Wellington Koo, Chinese Ambassador in Washington, signed a temporary pact on U.S. aid to China. Included in the agreement were principles on the utilization of the economic aid portion (U.S.\$275,000,000) of the total China aid funds of U.S.\$463,000,000. The foreign aid bill of 1948 was passed by Congress on April 2 and signed by President Truman on the following day. The bill provides \$463,000,000 for China.

Notes on the establishment of a Sino-American Rural Reconstruction Commission were exchanged between the U.S. Ambassador J. Leighton Stuart and Foreign Minister Wang Shih-chieh in Nanking on August 5. The creation of the Commission is provided for in the U.S.-China Aid Act of 1948. The commission would undertake through appropriate agencies a coordinated extension-type program in agriculture, home demonstration, health and education, etc.

Mme. Chiang Kai-shek, wife of China's President, arrived in Washington, D.C., on December 1 to appeal for more American aid to stem the Communist tide in China. Estimates from U.S. Government sources indicate that fighting equipment valued at about \$63,000,000 has been delivered to China's hard-pressed armies in the last year and a half. It was reported in Washington that the program proposed by Mme. Chiang would cost the United States about \$1,000 million a year over the next three years.

Foreign Relations. Foreign Minister Wang Shih-chieh declared on November 9 that the basis of friendly relations between China and the Soviet Union was weakened through the non-observance by the latter of terms of the Sino-Soviet Treaty of Friendship and Alliance of 1945. The Foreign Minister gave the following instances of treaty violation by the U.S.S.R.: (1) The Soviet attempt to obstruct the taking over of the Northeast; (2) the

Soviet obstruction of the taking over of the civil administration of Dairen and Port Arthur; (3) the facilities given by the Soviet authorities to the Chinese Communists in their securing of military stores surrendered by the Japanese to the Soviet troops; (4) the moral and material assistance given to the Chinese Communists; and (5) the Soviet infringement of the political independence of Outer Mongolia.

The Japanese Foreign Office figures released on September 28 revealed that an estimated 140,000 former soldiers and nurses of Japan's once powerful and veteran Kwantung Army were either serving with the Chinese Communists in Manchuria or were living independently in Red-held China.

The Chinese Government on August 12 accorded provisional recognition to the Government of Korea and appointed Dr. Liu Yu-wan as China's diplomatic representative to that Government with the rank of an Ambassador.

On Jan. 12, 1948, the Hong Kong police forcibly evicted some 2,000 Chinese from their wooden huts in Kowloon city. A number of them were injured when the Hong Kong police used tear gas and opened fire. The incident climaxed lengthy negotiations between the Chinese and Hong Kong governments over jurisdictional rights in Kowloon City, which the Chinese Government has never waived. One upshot of the Kowloon incident was the Canton incident on January 16, when a Chinese mob set fire to the British consulate in Canton and burned it to the ground. A number of British nationals were wounded in the mêlée. The incident occurred when a public demonstration was held in Canton protesting the Kowloon incident.

The agreement concerning the prevention of smuggling between Chinese ports and Hong Kong, which provides for the establishment of Chinese maritime customs inspection centers and for the maintenance of Chinese customs staff members within Hong Kong territory for the purpose of collecting or assessing in advance Chinese customs duty on dutiable commodities about to be exported to China, was reached on Jan. 12, 1948 between the Chinese and British Governments.

Peiping's once famous "Legation Quarters" was officially abolished on Dec. 26, 1947. The "Legation Quarters" was established in 1901 after the Boxer Rebellion. The original agreement stipulated that "the Quarters occupied by the Legations shall be considered as specially reserved for their use and placed under their exclusive control, in which Chinese shall not have the right to reside and which may be made defensible." It authorized each of the powers concerned to maintain a permanent guard. The powers concerned were the United States, Britain, France, Belgium, Netherlands, Austria, Germany and Japan.

China and the United Nations. Dr. P. C. Chang, Chinese representative on the United Nations Social and Economic Council, was appointed by the Government to head the delegation to the United Nations Freedom of the Press Conference, held in Geneva on Mar. 23, 1948.

Dr. Wang Shih-chieh, Minister of Foreign Affairs, headed the Chinese delegation to the third plenary session of the UN General Assembly convened in Paris in September. The Chinese delegation was composed of Dr. Chien Tai, Chinese Ambassador to France; Dr. T. F. Tsiang, China's permanent delegate to the UN Security Council; and Peng Hsueh-pei, advisor to the Executive Yuan. On November 11, the Chinese Delegate asked the UN Assembly to order 5th columns disbanded throughout the world, during the session of

the Political Committee in Paris; and also charged the U.S.S.R. with having supplied 50,000 Japanese war prisoners for service with Communist armies. See COMMUNISM. —M. H. CHANG

CHRISTIAN SCIENCE. A system of metaphysical or spiritual healing set forth by Mary Baker Eddy in her textbook of the movement, *Science and Health with Key to the Scriptures*, first published in 1875. The Church of Christ, Scientist, was established by Mrs. Eddy in 1879. In 1892 the name was changed to The First Church of Christ, Scientist, in Boston, Massachusetts. It is also known as The Mother Church. There are approximately 3,000 branches of The Mother Church located throughout the world, and 100 college and university organizations.

The affairs of The Mother Church are administered by The Christian Science Board of Directors under the Church Manual by Mary Baker Eddy. The Board of Lectureship of The Mother Church is engaged in delivering free lectures on Christian Science.

The Christian Science Publishing Society, whose affairs are administered by a Board of Trustees, also under the Church Manual, issues the international daily newspaper of the organization, *The Christian Science Monitor*. Other periodicals include: *The Christian Science Journal*; *Christian Science Sentinel*; *Christian Science Quarterly*; and five editions of *The Herald of Christian Science*, in the German, French, Dutch, Spanish, and Scandinavian languages, each with the English translation opposite; and also an edition of *The Herald of Christian Science* in Braille. President of The Mother Church for the year 1948-49: Harry C. Browne. Headquarters: 107 Falmouth St., Boston 15, Mass.

CHRISTMAS ISLAND. The name of two separate islands. (1) An island in the Indian Ocean, south-west of Java, included in the British colony of Singapore. Area, 60 square miles. Population (1941), 1,431. (2) The largest atoll in the Pacific, over 100 miles in circumference, just north of the Equator and lying south of the Hawaiian Islands. It is included in the British colony of the Gilbert and Ellice Islands.

CHROMIUM. The U.S.S.R. continued to be the principal producer of chromite ore in 1948, as indicated by imports of the United States, the principal consuming nation. Other major producers included South Africa, Turkey, the Philippines, Cuba, and Southern Rhodesia. Domestic production was insignificant, barely over 5,000 tons. Imports of chromite in the first nine months totaled 1,175,520 net tons (1947: 1,106,180 tons). Consumption during the period was only 689,967 tons, the balance being added to stocks.

As reported by the Bureau of Mines the breakdown by consuming industries was as follows: Metallurgical, 44 percent; refractory, 38 percent; chemical, 18 percent. Imports during the period were 58 percent for metallurgical uses, 30 percent for refractories and 12 percent for chemicals. United States imports during the nine month period included: U.S.S.R., 303,896 tons, principally metallurgical grade; South Africa, 206,512 tons, principally chemical grade; Turkey, 185,107 tons, principally metallurgical; the Philippines, 177,471 tons, principally for refractories; Cuba, 130,884, principally for refractories; Southern Rhodesia, 115,309, principally for metallurgical uses.

—JOHN ANTHONY

CHURCHES OF GOD. Comprising six denominations with a total membership of about 200,000. The two major groups are: (1) Church of God, a pentecostal and holiness group founded in 1886, in Tennessee. It has 135,452 members. Headquarters, Cleveland, Tenn. (2) Church of God, Anderson, Ind. (not pentecostal), originated about 1880 and stressing holiness and Christian unity. It is also referred to as the Reformation Movement. In 1948 it had 2,538 churches, 2,686 ministers, 96,736 members, and 80 missionaries. There were 166,795 students attending Sunday schools. Value of church property \$13,624,633. Headquarters: Anderson, Ind.

CIVIL AERONAUTICS ADMINISTRATION (CAA). A branch of the U.S. Department of Commerce which encourages and fosters the development of civil aeronautics and air commerce; encourages the establishment of civil airways, landing areas, and other air navigation aids and facilities; designates Federal airways and acquires, establishes, operates, and maintains air navigation facilities along such civil airways and at landing areas; makes provision for the control and protection of air traffic moving in air commerce; undertakes or supervises technical developmental work in the field of aeronautics; plans for the development of aeronautical facilities; and maintains and operates the Washington National Airport. The Administrator also enforces the civil air regulations (excepting the functions of the Civil Aeronautics Board, q.v.).

The Federal Aid Airport Program, based on matching by states and cities of Federal grants, progressed during 1948 with appropriations of \$40,000,000 during the year to bring the total appropriation in the first three of the seven year program to \$117,500,000. The sum of \$500,000,000 in Federal funds is authorized over the seven year life of the program.

Grants are being made by the CAA in accordance with its National Airports Plan which aims at construction or development of thousands of airports of all classifications.

The Federal Airways system of air navigation aids was extended and improved. Notable advances included the placing into commercial operation of additional instrument landing systems, bringing the total in operation to 77 at selected air terminals, and the operation on a test basis of 259 Very High Frequency radio ranges.

CAA airways experts were assigned to assist in the practical application of the findings of Special Committee 31 of the Radio Technical Commission for Aeronautics for the comprehensive 15 year program of air route and air traffic control.

CAA contracts for the development of cross-wind landing gear on several types of private and commercial aircraft were completed and demonstrated to pilots and the industry throughout the country.

During the year the Office of Aviation Safety continued its program of transferring responsibility for safe flying to the aviation industry wherever possible. It was proposed that the industry take over the certification of personal aircraft, a function now performed by Aviation Safety. This proposal is now under consideration. The designee system, by which qualified representatives from the industry perform inspection jobs of many types, was enlarged and at the end of the fiscal year on July 1 there were 9,965 such aides from the industry against 7,997 in the previous year.

Estimates put civil aircraft production during the year at 7,500; there were 115,000 student pilot licenses issued. Route mileage increased from 62,-

224 miles to an estimated 65,000 at year's end. It is estimated that 2,700 non-scheduled air carrier certificates would be issued by the end of the year 1948.

The number of civil aircraft reached an all-time high of 97,745. Interest in CAA's air education program was high during the year, as evidenced by the loaning of 15,526 films on various aviation subjects. These films were shown to 844,660 persons. Thirty states have established programs of aviation education and an estimated 15,000 teachers attended summer schools and workshops for courses in air education.

CIVIL AERONAUTICS AUTHORITY. A division of the U.S. Department of Commerce. Its functions are discharged by the Civil Aeronautics Administration and the Civil Aeronautics Board (qq.v.).

CIVIL AERONAUTICS BOARD. The Civil Aeronautics Board, as distinguished from the Civil Aeronautics Administration of the Department of Commerce, is an independent Federal agency, headed by five members appointed by the President with the confirmation of the Senate.

An important mission of the Board is to foster and encourage the development of an air transportation system which will be adequate to the present and future needs of the foreign and domestic commerce of the United States, the postal service, and the national defense; to preserve the inherent advantages of air transportation, and to regard as in the public interest competition to the extent necessary to assure the sound development of an air transportation system adjusted to the national needs; and to regulate air commerce in such manner as to best promote its development and safety.

In general the Board performs these chief functions: (1) regulation of the economic aspects of United States air carrier operation, both domestic and international; (2) promulgation of United States safety standards in the form of Civil Air Regulations; (3) investigation and analysis of United States civil aircraft accidents. Chairman in 1948, Joseph J. O'Connell, Jr.

CIVIL SERVICE, U.S. On Oct. 1, 1948, civilian employees in the executive branch of the Federal Government, including those outside the continental United States, totaled 2,108,971. In the continental United States, the total was 1,898,561; in Washington, D.C., 208,036.

The following shows the proportion of positions in the Federal executive civil service which are subject to the competitive requirements of the Civil Service Act of 1883: In the continental United States, 92 percent; in all areas, 85 percent.

Positions subject to these requirements comprise the "competitive service." They are filled on a permanent basis by the probational appointment of persons selected from "registers of eligibles," which consist of the names of persons who have qualified in open competitive examinations announced by the U.S. Civil Service Commission; by the promotion, reassignment or transfer of persons already in the competitive service; or by the reinstatement of former employees who have a competitive status. They may be filled on a temporary basis by the appointment of qualified persons "pending the establishment of a register," or by "job appointment" if the work to be performed is of short duration.

The remaining positions in the executive civil service (8 percent in the continental United States; 15 percent in all areas) have been excepted from

the competitive service by legislation or by Executive order.

The following table shows other major characteristics of civilian employment in the executive branch of the Government (continental United States) as of Oct. 1, 1948:

Item	Number	Percent
Number of employees	1,898,561	100
SEX		
Men	1,467,016	77
Employed on full-time basis	1,254,075	66
Part-time and intermittent	212,941	11
Women	431,545	23
Employed on full-time basis	414,589	22
Part-time and intermittent	16,956	1
VETERAN-PREFERENCE STATUS¹		
Men:		
Veterans	808,737	43
Nonveterans	654,099	34
Women:		
Veterans ²	38,845	2
Nonveterans	392,700	21
TENURE OF APPOINTMENT³		
Permanent and probational	1,352,290	71
Indefinite ⁴	389,153	20
Temporary (1 year or less)	153,538	8
COMPENSATION AUTHORITY		
Classification Act of 1923, as amended	813,235	43
Postal Pay Act	513,922	27
Wage boards ⁵	496,612	26
Other ⁶	74,702	4

¹ Refers to preferences granted to certain persons, on the basis of military service, by the Veterans' Preference Act of 1944. Figures exclude employees of the Marine Commission training organization, for whom distribution is not available.

² Includes women and children of veterans. ³ Excludes employees of the Marine Commission training organization, for whom distribution is not available. ⁴ Includes war-service appointments, appointments pending establishment of registers, and certain indefinite appointments. ⁵ Refers to manual workers whose compensation is fixed by wage boards in accordance with prevailing local rates of pay. ⁶ Represents employees paid at rates fixed by other statutes, by Executive orders, and by administrative determination.

Of the 2,108,971 employees in all areas, 42 percent were in the National Military Establishment, 25 percent in the Post Office Department, and 10 percent in the Veterans Administration.

The most important postwar activity of the U.S. Civil Service Commission has been a broad program of reconverting the Federal civil-service system to a peacetime basis. Under this program, which began in March, 1946, the number of employees without competitive civil-service status—employees who received war-service and temporary-indefinite appointments during and immediately after the war—is gradually reduced; at the same time, the number of employees with probational and permanent appointments is increased.

Progress of the program is constantly advanced by the announcing of open, competitive civil-service examinations, establishing registers of eligibles, and making placements from these registers to fill vacancies and to displace non-status employees.

Non-status employees who do not compete in an appropriate examination when it is announced, or who do compete but fail to attain sufficiently high ratings, are displaced by other persons who qualify in the examination.

Between January, 1947, and October, 1948, the number of employees with war-service or temporary-indefinite appointments decreased 55 percent—from 855,601 to 389,153 (continental United States); the number with probational or permanent appointments increased 41 percent—from 957,564 to 1,352,290.

During the fiscal year ending June 30, 1948, the Civil Service Commission's central office and its field offices announced examinations for establishing 34,956 registers, and 32,497 registers were established. So far as practicable, the Commission, in

determining the sequence in which examinations are to be announced, has concentrated on those involving large numbers of competitors, thus speeding the completion of the postwar reconversion program.

A check on the loyalty of employees in the executive branch of the Federal Government has been in progress since October, 1947. The purpose is to prevent the employment in Federal agencies of persons not loyal to the Government of the United States, and to protect loyal employees against unfounded accusations of disloyalty.

Under the Executive order which authorized the program, the Civil Service Commission, the Federal Bureau of Investigation, and the employing agencies have clearly defined responsibilities for carrying it out.

One phase of the program relates to "incumbent employees"—persons who entered on duty prior to Oct. 1, 1947. Forms giving identifying information regarding most of the approximately 2 million incumbent employees have been prepared by the various agencies and checked through the files of the Federal Bureau of Investigation. These forms, together with fingerprints, serve as a basis for determining whether investigation is necessary. When the checks develop a question of loyalty, the FBI conducts an investigation and sends its report to the Civil Service Commission, which transmits it to the employing agency. Such investigations have been found necessary with respect to less than 1½ of 1 percent of the 1,759,599 incumbent employees whose fingerprints had been checked by the FBI as of Oct. 16, 1948.

When an FBI report reaches an agency, an agency loyalty board considers it and, where further action is warranted, sends a letter of charges to the employee, conducts a hearing, and makes a decision as to the employee's retention in the agency. If the decision is unfavorable, the employee may appeal to the head of the agency. An unfavorable decision by the agency head may be appealed to the Loyalty Review Board, established within the Civil Service Commission.

By Oct. 31, 1948, agency boards had rendered favorable decisions in 1,373 cases and unfavorable ones in 84 cases; 260 employees resigned after FBI reports had been turned over to agency boards, but before the cases had been adjudicated; the boards had on hand 1,734 cases still to be adjudicated. Of the 84 employees against whom unfavorable decisions were rendered, 44 appealed to the head of the agency.

The other phase of the loyalty program relates to "new appointees"—persons who entered on duty in the competitive civil service on or after Oct. 1, 1947. The Civil Service Commission has established 14 regional loyalty boards to process the cases of new appointees and applicants. As of Oct. 16, 1948, reports of 920 FBI investigations had been forwarded to those boards. The boards had completed 304 cases, finding 221 of the persons eligible for Federal employment so far as loyalty is concerned, and 19 ineligible; 64 cases were closed without determination because the individuals had left the service.

New appointees and applicants, like the incumbent employees, have the right to a hearing on specific charges. They may appeal adverse decisions of the regional loyalty boards to the Loyalty Review Board, the highest appellate body.

As of Oct. 31, 1948, the Loyalty Review Board had received 18 appeals from decisions by agency heads (incumbent-employee cases) and 15 from decisions of the regional loyalty boards. The Board

had completed 8 of these 33 cases, concurring in 6 instances and dissenting in 2.

The following were among the civil service measures enacted into law by the second session of the 80th Congress:

Public Law 396 and an amendment extended 10-point veteran preference in civil-service examinations to widowed, divorced, and separated mothers of ex-servicemen and ex-servicewomen who died in service or were totally and permanently disabled.

Public Law 900 increased the annual pay of retirement Act. It simplified the formula for computing annuities, and liberalized the provision for optional retirement with reduced annuity.

Public Law 900 increased the annual pay of employees whose positions are subject to the Classification Act of 1923 by \$330 a year, and that of employees in the Postal Service by \$450.

HARRY B. MITCHELL

COAL. Widespread strikes in coal mines here and abroad reduced production of coal in 1948. A nationwide strike in United States bituminous mines lasted from March 15 to April 23, at an estimated cost of \$3.5 million tons. Production of bituminous coal dropped to 586 million tons in 1948, from 619 million tons in 1947. Pennsylvania anthracite production was at the same rate as in 1947, 57 million tons.

The strike was touched off by a communication from John L. Lewis, United Mine Workers president, to local union officials that mine operators had dishonored a 1947 agreement on the miners welfare fund. Lewis demanded that the operator financed \$30 million fund pay \$100 a month pension to miners over 60 with 20 years service.

Some 400,000 miners left the pits and production was down by 90 percent. The Office of Defense Transportation on April 13 ordered a 25 percent mileage cut in coal burning passenger train service. Coal exports, except to Canada, were halted on April 30.

An injunction was issued April 3 by Associate Justice T. Alan Goldborough of the United States District Court, Washington. On April 19, a \$1.4 million fine was levied on the union and \$20,000 on Lewis for criminal contempt. Civil contempt penalties were suspended when miners returned to work. An 80 day Taft Hartley Act injunction superseded the one of April 3 on April 21.

The threat of another coal strike in July was ended on June 24 when Lewis and the soft coal operators agreed on a wage increase of 12.5 cents an hour, and an increase in the royalty paid by operators into the welfare fund, to 20 cents a ton. Soft coal prices were raised 46 cents a ton on July 6. Lewis and 18 steel producers signed a contract on July 13, ending a seven day captive mine strike, on the same terms.

An important question as to the accuracy of previous estimates of United States reserves of coal has been raised by Andrew B. Crichton, mining engineer, who places total domestic reserves at only 250 years and those in the East at 90 years. Crichton's findings contrast with previous estimates of reserves set variously at 1,000 years to 3,000 years at present consumption rates. These estimates were based largely on the U.S. Geological Survey of 1907 which included all coals 14 inches or more thick to a depth of 3,000 feet, the U.S. Coal Commission survey of 1923, and the Bureau of Mines statement of 1936. In a state-by-state study of resources, Crichton has found important discrepancies between these estimates and recent state geological

survey findings or the current mining conditions in the state. Crichton sets U.S. reserves at only 223,000 million tons.

Domestic and export coal demand declined toward the end of the year, making it difficult to move the poorer grades. Higher quality and lower production costs were forecast by heavy expenditures for mine mechanization, automatic mining equipment, and coal washing facilities. Operators and union officials were concerned with the competitive position of coal as an industrial and domestic fuel.

World coal production improved in 1948. The nationalized British coal industry slightly exceeded the 200 million ton objective set by the government. (1947 production, 198,300,000 tons; consumption, 182,500,000 tons). France and the Saar production was about 60.2 million metric tons. Production of Poland was about 69,750,000 metric tons. Production of western Germany was about 86,620,000 metric tons.

Total exports of bituminous coal by the United States to the end of August were 31,256,609 net tons, as compared with 44,467,617 tons in the same period of 1947. North and Central America received about 50 percent of these shipments, and 40 percent went to Europe. United States exports of anthracite to the end of August totaled 4,463,603 net tons, compared with 5,430,437 tons in the same period of 1947. North and Central America took about 76 percent of anthracite exports.

—JOHN ANTHONY

COAST AND GEODETIC SURVEY. A Bureau of the U.S. Department of Commerce responsible for surveying and charting the coastal waters of the United States and possessions, and for executing geodetic control surveys in the interior of the country and in Alaska. Its releases include nautical and aeronautical charts, Coast Pilots, geodetic control data, tide and current tables, geomagnetic publications, and earthquake reports.

Nineteen vessels were engaged during 1948 in surveying the coastal waters of the United States and Alaska, collecting basic data for the compilation and revision of the nautical charts of the Bureau. A comprehensive survey of the area north of the Alaskan peninsula was inaugurated. Surveys were extended in the Gulf of Mexico to distances of 225 nautical miles from shore, using newly developed electronic equipment.

Photogrammetric surveys were made to provide data for the construction of planimetric and topographic maps and for chart revision. Over 100 airports were photographed and surveys completed as part of a program for publishing airport charts and obstruction plans.

The basic geodetic network of horizontal and vertical control has been extended to furnish geographic position (latitudes and longitudes) and elevations above mean sea level for use in the national mapping and charting program and in the planning of extensive river basin developments.

Tide and Current Tables for 1949 were published giving information on the rise and fall of the tide and the ebb and flow of the current for world ports. Primary and secondary tidal stations were maintained at 100 seaports in the United States and possessions, and in foreign areas, for the study of the variation of mean sea level and for tide predictions.

Continuous photographic records of the changes in the earth's magnetic elements were obtained at 6 observatories. A new observatory at College, Alaska, was placed in operation for the study of

Arctic magnetic phenomena. Fifty-two strong-motion seismographs were operated in the western part of the United States and 7 in South and Central America. More than 500 earthquakes were located throughout the world. A seismic sea-wave detector was installed at several places in the Pacific as part of a general warning system to warn the Hawaiian Islands of an impending seismic sea wave.

Over a million nautical charts and nearly 13 million aeronautical charts were issued during the year. Two special charts covering the entire Atlantic coast were published for use with the Loran system of navigation and 11 of the 33 Gulf Intracoastal Waterway charts have now been completed. Publication was begun of a new series of aeronautical charts for use with high-frequency instrument landing systems at airports.

The Bureau participated for the eighth consecutive year in the U.S. State Department program for "Cooperation with the American Republics," and in the Philippine Rehabilitation Program authorized by the 79th Congress.

—LEO OTIS COLBERT

COAST GUARD, U.S. The Coast Guard effected many rescues during 1948. Typical of these, Ocracoke (N.C.) Lifeboat Station personnel removed the crew of a fishing vessel, grounded in heavy surf, by means of a breeches buoy; the cutter *Clover* rescued 6 crew members of a shipwrecked cannery tender in Alaska; the *Tampa* and *Nike* removed all 274 passengers from an army transport aground at South Pass, La.; a PBM plane from Salem Air Station picked up the pilot of an F-47 crashed at sea; a PBY aircraft landed in the open sea near a Greek freighter grounded off Newfoundland and brought 8 seriously injured seamen to Argentina; the *Bibb* transferred 40 persons by lifeboat and life raft from a sinking Portuguese schooner 250 miles off Cape Race, N.F., which had been located by PBY aircraft; the *Maple* removed 60 passengers from a ferryboat aground in Ogdensburg Harbor, Lake Ontario; 4 men were removed from two LSM's that broke loose from a tug off Absecon Inlet, N.J.; two flights of 1,400 miles from San Diego brought injured men from American fishing vessels off Lower California; Coast Guard boats rescued 7 men from a fishing vessel afire off Barnegat Inlet, N.J.; aircraft searched an area of 35,000 square miles during Mississippi flood relief operations, while other units evacuated victims of this and the Columbia River floods. Altogether 5,399 persons were rescued from peril during the year.

The Commandant of the Coast Guard headed a delegation to the International Conference on the Safety of Life at Sea at London which adopted advanced safety standards for vessels of all nations.

Breaking out 12 vessels frozen in the ice of Buffalo Harbor on Mar. 17, 1948, the Coast Guard icebreaker *Mackinaw* set a 50-year record for early opening of navigation on the Great Lakes.

The *Mendota* and the *Mocoma*, on International Ice Patrol off the Grand Banks, warned transatlantic shipping of the presence of icebergs until all danger had passed in July. Reconnaissance flights covering more than 200,000 square miles, by Coast Guard aircraft, and scientific studies of ice conditions made on board the *Evergreen* and *Ingham*, supplemented the patrol.

Congress authorized the Coast Guard to maintain floating ocean stations for search and rescue, communications, air navigation facilities, and meteorological services in ocean areas regularly traversed by U.S. aircraft. It also provided funds to

increase the number of such stations in the Atlantic from 2 to 7, with one more jointly maintained with Canada. There are 6 others maintained by European nations. Pacific U.S. ocean stations were increased from one to two; 17 additional vessels will be manned for such duty by June, 1949.

Different types of aids to navigation including light stations, lightships, radio beacons, fog signals, and lighted and unlighted buoys, numbered in all 36,284 by mid-year 1948. Thirty-six Loran stations, extending from Greenland around our coasts and into the Pacific as far as Tokyo, enabled vessels and aircraft to determine their positions accurately and quickly in all weathers.

The Bering Sea Patrol, inactive since Pearl Harbor, was reestablished in May, 1948, as the ice-breaker *Northwind* proceeded to the remote Arctic regions of Alaska, transporting a floating court for law enforcement and medical and dental assistance for the native population. Protection of seal herds and other wild life was an additional duty.

Annual inspections of 7,513 vessels of the U.S. were completed during the 1948 fiscal year and 7,361 drydock examinations conducted, of which 78 were for vessels being converted or newly constructed. Reinspection of 2,667 vessels and special surveys of 141 unclassified passenger vessels were augmented by special examinations on 210 passenger vessels and ferries by travelling inspectors. 3,166 marine casualties were investigated, including 130 accidents resulting in the loss of 299 lives. Merchant Marine Details in the major domestic and in 5 European ports made 10,184 investigations of negligence, incompetence, and misconduct.

Federal laws enforced on the high seas and navigable waters of the United States included anchorage regulations, navigation laws, custom laws, the Motorboat Act, the Oil Pollution Act, the Italian Act, the Sponge Fishing Act, and Alaskan fish and game laws.

Military personnel at the mid-year period included 1,854 commissioned officers, 668 chief warrant and warrant officers, 261 cadets and 17,080 enlisted men. In addition, 4,303 civilians comprised 1,800 salaried, 1,836 wage-board employees and 667 lamp-lighters.

The 4,299 floating units included 160 cutters, 59 patrol boats, 37 lightships, 40 harbor tugs, and 9 buoy boats; also 171 motor lifeboats, 1,466 motorboats and 2,357 non-powered small craft.

There were 778 shore units, including 9 air stations (with 79 aircraft, including 8 helicopters), 4 air facilities, 10 bases, 172 lifeboat stations, 446 light stations, 73 light-attendant stations, and 20 radio stations. The 41 depots, 2 supply depots, and the Coast Guard Yard made up the total.

—JOSEPH F. FARLEY

COCOA. A shortage of supplies of cocoa beans continued in 1948 and production was less than in 1947 due to weather conditions and in some locations to tree diseases. Prices have declined mainly because of buyer resistance to the high price of the previous year, which at one time reached 50 cents per lb., and at the end of 1948 was about 30 cents.

Cocoa is still distributed by the International Emergency Food Council although the trade in the United States strongly recommends withdrawal from the Council and return to the old system of free negotiation. Expected world production from Oct. 1, 1948, to Sept. 30, 1949, is about 600,000 long tons, of which 240,000 are allocated to the United States.

Total United States receipts for 1948 were 3,964,782 bags compared with 4,179,977 bags

in 1947 (one bag of cocoa averaged 143 lb.).

Chief producing countries (with 1949 production estimates) are: British West Africa 304,000 tons; French West Africa 75,200; Brazil 101,700; Ecuador 13,700; Venezuela 10,000; Santo Domingo 22,000.

Chief consuming countries are: United States 240,000 tons; United Kingdom 104,000; France 49,600; Netherlands 36,000; Canada 18,000; U.S.S.R. 17,600. Germany, a large user before the war, has been allotted 7,500 tons.

Good progress is reported by the American Cocoa Research Institute, Inc., which is supported by the New York Cocoa Exchange, Inc., the Cocoa Merchants' Association of America, Inc., and the Association of Cocoa and Chocolate Manufacturers of the United States, in their efforts to control disease and to induce the governments of various potential cocoa-producing countries in this hemisphere to plant cocoa trees on a larger scale. Immediate results will not be seen because trees do not begin to produce until five years after planting. Students from tropical countries are being trained in cocoa culture at Turrialba, Costa Rica, the Cacao Center of the Inter-American Institute of Agricultural Sciences.

— ROBERT CROSS

COFFEE. The year 1948 proved to be important and eventful for coffee, marking the first postwar year during which normal laws of supply and demand have set the course of prices without having elements foreign to coffee affect such a course. Events also tended to improve world consumption prospects, while at the same time the business picture of coffee was altered. It was a year which witnessed bumper harvests in most food crops, yet coffee was one of the few natural products to stand apart from such a trend.

On a worldwide basis, total production was only sufficient to cover consumption requirements, and since coffee needs more than 5 years to develop, this situation is likely to continue for some time. It is indeed a far cry from prewar days when it appeared that over-production would always affect coffee. During the war years a succession of poor crops caused by unfavorable weather conditions brought about the absorption of huge stocks held in producing countries. The existence of such stocks had naturally weighed down the market and their disappearance played a most important part in establishing today's healthy market situation.

World consumption during 1948 amounted to some 30 million bags. Of this amount the United States accounted for over 20 million bags and thus remains by far the most important single market for the product. Europe consumed around 6.5 million bags, while the remaining 3 million bags were consumed throughout the world in such countries as Argentina, Canada, French North Africa and the Union of South Africa, to name the most important.

On the producing side of the picture it can be said at this moment that at least for the next two years the total exportable production is not likely to go much above 29 million bags. Since it can safely be assumed that world consumption will at least maintain its 30 million bag level there would appear to be a deficit of some 1 million bags yearly between production and consumption. For the next two years at any rate, this deficit will be easily taken care of by stocks still existing in some producing countries. Nevertheless, it is to be hoped that with the better care that plantations are receiving today in view of the generally favorable price situation, world production will increase sufficiently to make up for the eventual absorption of

such stocks since, obviously enough, they are not inexhaustible and the next two years should see their end.

Finally, there is to be noted the experiment that the New York Coffee and Sugar Exchange is making in attempting to establish a Futures Contract with specifications such that it can be used by the importing and roasting trade as a general market in which to obtain actual delivery of coffee, instead of a purely nominal contract used only for either hedging or speculative purposes.

In common with most branches of business, the coffee industry as a whole was during 1949, and will probably be during most of 1949, still adjusting itself to the postwar era; supply and consumption are in balance today, and will remain so during the next two years; and therefore, excluding any international upheavals, the prospects for economic stability in coffee appear to be excellent.

—PAN-AMERICAN COFFEE BUREAU

COKE. The demand for coke was very heavy in 1948 in order to meet capacity steel and foundry production. Despite a 5-week strike in the bituminous coal mines, production approached the 1947 postwar record with 73.3 million tons (1947, revised: 73,445,850 tons). Oven coke production, about 80 percent of it from ovens operated by the iron and steel industry, was approximately 67 million tons (1947, revised: 66,758,549 tons). Beehive ovens, called on for heavier tonnages in view of the shortage, produced 6.3 million tons (1947, revised: 6,687,301 tons). Nearly 80 percent of total coke production was consumed by blast furnaces for pig iron production. Oven coke stocks were higher by 400,000 tons at the end of 1948 (1,475,000 tons) than the previous year.

—JOHN ANTHONY

COLOMBIA. A republic of South America. In the west, the Andes cover about one-third of the land surface; the rest is composed of plains watered by the Orinoco and Amazon rivers. The climate varies from tropical to cold with the altitude.

Area and Population. Area: 439,848 square miles. Population (1947 est.): 10,000,000, of whom the majority are mestizos; 15 percent of European descent, 10 percent Indian, and 5 percent Negro. Chief cities: Bogotá (capital), 452,090 inhabitants in 1947; Medellín, 224,280; Barranquilla, 202,760; and Cali, 139,600.

Education and Religion. The Constitution guarantees freedom of religion. Roman Catholicism is predominant. Spanish is the official language. Recent statistics show that more than 45 percent of the population over 10 years of age is literate. There were, in 1946, 12,792 public and private elementary schools with a total enrollment of 1,101,910 students, 1,277 secondary schools with 86,283 students, and several schools (colleges and universities) for higher learning with a total enrollment of 7,335 students.

Production. Colombia's economy is agrarian. Coffee is the principal product and yielded 6,086,308 bags (of 60 kilos) in 1946. Exports of coffee during the twelve months ended June 30, 1948 amounted to 5,420,207 bags, of which 4,983,157 bags were exported to the United States. Petroleum is a promising industry; production for the 12 months ending October, 1947, totaled 23,615,064 barrels of which 18,102,000 barrels were exported. The output of gold in 1947 totaled 418,457 ounces; a decrease from other years. Production for internal consumption centers on corn, 620,000 tons in 1946; potatoes, rice, 96,715 tons; sugar, 166,500 tons (1947); and wheat. Rubber is produced on a small

scale. Consumer goods and the construction industry are important.

Foreign Trade. In 1947 total imports were valued at 636,200,000 pesos; exports totaled 446,200,000 pesos (peso, Bank of Republic, averaged U.S.-\$0.5682 during 1946 to 1948).

Finance. Budgetary expenditures for 1948 were estimated at 308,395,878.26 pesos, as compared with 291,695,159.27 in 1947. Currency in circulation on Dec. 31, 1947, was \$306 million; bank deposits \$335 million. The cost of living index in May, 1948, was 286 (1937 = 100).

Transportation. Railway mileage in 1944 was 4,200. There are 14,245 miles of road, of which 7,208 are highways. Motor vehicle registration shows 36,500 cars of all kinds. There are 175,000 radios and 42,200 telephones. Colombia has excellent national companies providing domestic air transportation, while international air lines connect with the principal countries of the world.

Government. Colombia is a centralized republic of 15 departments, 3 intendencias, and 6 "comisarias." Under the Constitution of Aug. 4, 1886 (extensively amended), it has a bicameral Congress composed of a Senate of 63 members and a Chamber of Deputies of 131 members. The President is elected for a 4-year term, and is aided by a Cabinet of 12 Ministers. The Council of State also assists the President. On May 5, 1946, Mariano Ospina Pérez was elected to the Presidency and took office on August 7 of that year.

Events, 1948. Colombia, traditionally a democratic country, was the scene of a revolt during the Ninth Inter-American Conference of American States at Bogotá, on which wide attention was focused. As a result of this revolt internal politics of the year were much affected.

Preludes to the Revolt. Colombia began the year under the administration of Conservative President Mariano Ospina Pérez, who had been elected as a result of the split between the Liberals. He had, therefore, no real backing among the people. Antagonism between the parties caused serious outbreaks in the department of North Santander which forced the Government to declare a state of siege in that region. Party leaders called their members to order, asking them to prevent a schism in the coalition cabinet and the President decreed complete disarmament of the civilian population.

On February 7, the liberals organized a mass meeting in Bogotá which more than 1,000 persons attended, with feelings high against Ministers of the Interior and Education, but the meeting was held without incident. In preparation for the Ninth Inter-American Conference, the Government appointed Laureano Gómez to the Ministry of Foreign Affairs.

Bogotá Revolt. In the early hours of the afternoon of April 9, a serious revolt broke out in Bogotá. The uprising was provoked by the assassination of the Liberal Party leader Jorge Eliécer Gaitán, who was shot while leaving his office at noon. Enraged people in the street killed the assassin, and indignation among Liberals was so strong that they immediately marched to the Capitol, ostensibly with the intent of attacking Gómez, who was presiding over the Pan American Conference. The Palace was sacked and considerable damage was done, but no harm came to the delegates.

The revolt spread to other sections of the city, and mobs sacked and burned important buildings and stores. When the news of Gaitán's death reached other cities similar movements occurred. It was later disclosed that nearly 600 policemen belonging to the Liberal Party remained neutral

in the conflict, which explained the ease with which the people were able to operate.

Both political parties, Conservative and Liberal, had important conferences with the President, who announced the formation of a new coalition cabinet composed of 6 Conservatives, 6 Liberals, and an Independent. The important Ministry of the Interior was given to Darío Echandía (Liberal), who took Gaitán's place as party President. Minister Laureano Gómez was removed from the Ministry of Foreign Affairs and replaced by Eduardo Zulueta Ángel (Conservative).

Aftermath of the Revolt. Property losses caused by the Bogotá riots were estimated by the U.S. Embassy "Airgram," released June 8, at 88 million pesos. It was also reported that some 740 merchants suffered losses, but that about 70 percent would be able to start businesses again on their own resources. Following the revolt, Darío Echandía secured the promise of the Confederation of Colombian Workers (C.T.C.) that they back the coalition government. The workers then ended the general strike that they had declared following Gaitán's assassination.

At first, various groups, especially the Conservatives and some of the delegates to the Pan American Conference, including Secretary Marshall, attributed the uprising to Communist attempts to sabotage the Conference. This was doubted by other observers, who claimed that the Communist Party was too small in Colombia (affiliation is estimated at 8,000) to have organized such an important revolt on short notice.

The Ospina Pérez administration accused the U.S.S.R. of having instigated the riot and broke off diplomatic relations. However, in diplomatic circles in Washington and several Latin American republics, the prevalent opinion was that although some Communists participated, the revolt was caused by the strong political antagonism between Gaitán's followers and the Conservative administration.

The months following the revolt were characterized by a tense political atmosphere and rumors of possible conflict between the two major parties, with mutual accusations of arms smuggling. Other incidents included the murder at Cartagena of a locally prominent Liberal leader by a police lieutenant of Conservative affiliation.

International Front. Colombia participated in the Ninth Inter-American Conference of American States held at the capital, Bogotá (see PAN AMERICAN ACTIVITIES). She severed diplomatic relations with the Soviet Union in April, and reached a preliminary agreement with the United States for the building of an inter-oceanic canal, using the At-
rato River, considered of great importance to both countries. Colombia was a signatory to the Charter of American States.

—MICHAEL JORRIN

COLORADO. A mountain State. Area: 103,948 sq. mi. Population: (July 1, 1948) 1,165,000, compared with (1940 census) 1,123,296. Chief city: Denver (capital), 322,412 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Vital Statistics. In 1946 there were 29,518 live births (26.8 per 1,000 based on civilian population present in the area); 12,058 deaths (10.6 per 1,000), excluding deaths among armed forces overseas; maternal deaths 57 (1.9 per 1,000 live births); deaths under one year 1,180 (40.0 per 1,000 live births); stillbirths 650 (22.0 per 1,000 live births). During 1946 there were 28,875 cases

of single births, 324 cases of twins, and 3 cases of triplets.

The death rates (per 100,000 of the population) for 10 leading causes, exclusive of stillbirths and of deaths among the armed forces overseas, were as follows: diseases of the heart, 280.1; cancer and other malignant tumors, 127.2; intracranial lesions of vascular origin, 85.3; pneumonia (all forms) and influenza, 66.2; nephritis, 63.5; accidents, excluding motor-vehicle accidents, 57.2; premature birth, 38.2; tuberculosis (all forms), 35.3; motor-vehicle accidents, 31.7; senility, ill defined and unknown, 19.5.

Of the total deaths, 6,074 were 65 years of age or over; 2,877, 45-64; 1,151, 25-44; 373, 15-24; 196, 5-14; 204, 1-4; and 1,180 were in the group under one year of age. Diseases of the heart led the causes of death in the age groups 25-44, 45-64, and 65 years and over during the calendar year of 1946.

Legislation. There was no regular session of the Colorado legislature during 1948. The regular session meets on the first Wednesday in January, every two years, on odd years.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$93,692,000; total expenditure, \$95,437,000.

Elections. Democrats won almost a clean sweep of Statewide offices in the November election. Truman won a plurality of about twenty thousand over Dewey and received the 6 electoral votes which went to Dewey in 1944; Democratic Governor Lee Knous was reelected; and incumbent Senator Edwin C. Johnson was returned for another term. In contests for House seats, Republicans won 1 and Democrats 3—a gain of 2 for the latter. Mrs. Nettie S. Freed, Republican, was reelected Superintendent of Public Instruction. Democrats carried other races: Lieutenant Governor Walter W. Johnson; Secretary of State—George J. Baker; Attorney General John W. Metzger; Auditor—Myron C. McGinley; Treasurer—Homer F. Bedford.

Officers, 1948. Governor, William Lee Knous; Lieut. Governor, Homer L. Pearson; Secretary of State, Walter F. Morrison; Attorney General, H. Lawrence Hinkley; State Auditor, Homer F. Bedford; State Treasurer, H. Rodney Anderson.

COMBINED CHIEFS OF STAFF—United States and Great Britain. Establishment of the Combined Chiefs of Staff was announced by the U.S. War Department on Feb. 6, 1942. The Combined Chiefs of Staff work on matters deriving from the wartime cooperation of Great Britain and the United States. U.S. Members: Fleet Admiral William D. Leahy, Chief of Staff to the Commander in Chief of the Armed Forces; Admiral Louis F. Denfeld, Chief of Naval Operations; General Omar N. Bradley, Chief of Staff, U.S. Army; General Hoyt S. Vandenberg, Chief of Staff, U.S. Air Force. British Members: General Sir William Morgan; Admiral Sir Frederick Darymple-Hamilton; Air Chief Marshal Sir Charles Medhurst.

COMMERCE, U.S. Department of. A Department of the U.S. Government, created in 1903 as the Department of Commerce and Labor. The activities of the Department include population, agricultural and other censuses; collection, analysis, and dissemination of commercial statistics; promotion of foreign and domestic commerce; coastal and geodetic surveys; establishment of commodity weights, measures, and standards; supervision of the issuance of patents and the registration of trade-marks; the establishment and maintenance of aids to air naviga-

tion, the certification of airmen, the inspection and registration of aircraft, and the enforcement of rules and regulations issued pursuant to the Civil Aeronautics Act of 1938; supervision of the issuance of weather forecasts and warnings for the benefit of agriculture, commerce, and navigation including weather service for aviation, and the publication of climatic statistics; operation of a system of water-line facilities as a common carrier under the trade name Federal Barge Lines; and numerous other functions concerning these activities and related subjects.

The Department of Commerce as at present constituted, with the Office of the Secretary, includes:

- Bureau of the Census
- Bureau of Foreign and Domestic Commerce
 - Office of Business Economics
 - Office of Domestic Commerce
 - Office of Field Service
 - Office of International Trade
- Civil Aeronautics Administration
- Coast and Geodetic Survey
- Inland Waterways Corporation
- Office of Technical Services
- Office of Industry Cooperation
- National Bureau of Standards
- Patent Office
- Weather Bureau

Secretary since May, 1948, Charles Sawyer; Assistant Secretary for Foreign and Domestic Commerce (Acting), Thomas C. Blaisdell, Jr.; Assistant Secretary for Aeronautics, John R. Alison.

COMMODITY CREDIT CORPORATION (CCC). An agency, created under the laws of Delaware (Oct. 17, 1933) pursuant to Executive Order 6340, which became a part of the U.S. Department of Agriculture in 1939. CCC was continued until June 30, 1948, as a U.S. agency by successive amendments to the act on Jan. 31, 1933. In 1948 Congress passed an Act providing a Federal charter for the corporation. This dissolved the Delaware corporation and continued the CCC indefinitely under its Federal charter. The corporation, within the U.S. Department of Agriculture, is managed by a 5-member board of directors, of which the Secretary of Agriculture is one. The other members are appointed by the President of the United States with the advice and consent of the Senate. In carrying on its activities, the CCC makes wide use of the facilities and personnel of the Production and Marketing Administration. It is authorized to engage in buying, selling, lending, and other activities with respect to agricultural commodities and related facilities for the purpose of supporting farm prices, maintaining adequate supplies of agricultural commodities, and facilitating their orderly distribution in both domestic and foreign commerce. CCC procures and makes commodities available to various Government agencies and carries out special import and export programs. President in 1948: Ralph S. Trigg.

COMMODITY EXCHANGE AUTHORITY. The Commodity Exchange Authority of the U.S. Department of Agriculture regulates futures trading on the Chicago and Kansas City boards of trade, the Minneapolis grain exchange, the New York and New Orleans cotton exchanges, and a dozen other commodity futures markets. The volume of grain futures trading under regulation in the year ended June 30, 1948, aggregated 12,000 million bushels, which was the largest in ten years. The volume in cotton futures was 110 million bales, the largest since 1929. There were also large futures markets

in butter, eggs, potatoes, lard, cottonseed oil, and feedstuffs.

The purpose of Federal regulation of these markets under the Commodity Exchange Act is to prevent price manipulation and excessive speculation, and to protect the trading public against cheating and fraud in the execution of commodity futures transactions. Enforcement activities of the CEA in 1947-48 included the institution of criminal proceedings in several instances against persons charged with violating the act. Other infractions are disciplined by denial of trading privileges on the markets, and by suspension of broker registrations. To safeguard customers' funds against misuse, the CEA made an increased number of audits of commodity brokerage firms during the year. It continued the enforcement of fixed limits on speculative transactions of large traders in grains and cotton; and made eight marketwide investigations. One of these disclosed that hundreds of speculators were setting up sham positions in futures to conceal income-tax liabilities. Several million dollars of income tax recoveries should result from this investigation.

COMMONWEALTH FUND, The. Established in 1918 by Mrs. Stephen V. Harkness "to do something for the welfare of mankind." The Fund now amounts to approximately \$50,000,000. Appropriations in the year ended Sept. 30, 1948, totaled \$1,992,208. Activities tending to promote or maintain physical and mental health accounted for more than 80 percent of the total. Grants for more than \$555,000 were made for research on medical and physiological problems. Through contributions to medical education the Fund sought to encourage greater emphasis on problems of personality and emotional adjustment as they affect general and internal medicine and pediatrics. To this end fellowships were given for the training of physicians in psychiatry and psychotherapeutic medicine and support was given to teaching clinics and other arrangements for exploring the possibilities of comprehensive medical care. Fellowships were given also for advanced medical study in other fields by men and women preparing for, or already engaged in, teaching and research.

Public health activities designed to raise standards of rural service centered in Mississippi, Oklahoma, and Tennessee, and professional training for public health was fostered in Louisiana and Florida. In California, in collaboration with the State Department of Health, the Fund arranged an institute on mental health for public health officers. In the rural hospital program emphasis was thrown on the regional linking of small hospitals with medical centers as a means of raising the level of rural medical care, particularly in regions surrounding Rochester, N.Y., and Richmond, Va.

With the addition of five appointees from the Civil Services in the Dominions, the British Fellowship scheme was fully reconstituted after the interruption due to the war; 28 Fellows in all came to the United States for graduate study at American universities and in various technical fields.

New publications during 1948 included 10 books of educational significance. The directors of the Fund are: Malcolm P. Aldrich (President), David P. Barr, William E. Birdsall, Harold B. Hoskins, Lewis Perry, Barry C. Smith, William E. Stevenson, Thomas D. Thacher, and Boylston A. Tompkins. Offices: 41 East 57th St., New York 22, N.Y.

COMMUNICATIONS, Electrical. Continuing high demands for service and new technical developments

were responsible for large plant expansions in both the telephone and telegraph industries during the year. Radio communication service was reported reopened to several areas of the globe, but some difficulty was reported by International Telephone and Telegraph Company in transferring funds out of some countries. New developments appeared in a wide range of subjects which may be classed under communications, because of their potential effects in that field.

The "transistor," a device that is small in size but large in possibilities, was announced by Bell Telephone Laboratories. Small in comparison to an ordinary paper clip, it is capable of performing efficiently nearly all the functions of a vacuum tube, yet it has no plate, grid, nor filament. No vacuum is required, and there is no warm-up delay. The principal parts consist of two hair-thin wires touching a pinhead of a solid semiconductor material, such as germanium, soldered to a metal base. The whole is enclosed in a metal cylinder not much larger than a shoe-lace tip.

Tests have shown that the transistor will amplify at least 100 times, and some test models have been operated as amplifiers at frequencies up to 10 million cycles per second. In operation a voltage supply, such as batteries, energizes the transistor by applying bias potential to the two point contacts, which are only two thousandths of an inch apart. Input power delivered to one of the point contacts is amplified and transmitted to the other where it is delivered to an output circuit. Cost data on the device are not available because it is still in the experimental stage. However, far-reaching significance in electronics and electrical communication is expected.

The action of the transistor depends on the fact that the input contact is surrounded by an "area of interaction" within which the electronic structure is modified by the input current. If the output contact is placed in this area, the output current can be controlled by the input current.

Amplification with a diamond rather than with the conventional vacuum tube also was announced by the same laboratories. The method is based on the discovery that when beams of electrons are shot at an insulator—a diamond chip in this instance—electric currents are produced in the insulator which may be several hundred times as large as the current in the original electron beam.

A system of graphic communication based on a combination of radio, television, and photography to which the name "Ultrafax" has been given was demonstrated on October 21. Developed by RCA Laboratories in cooperation with Eastman Kodak Company and National Broadcasting Company, Ultrafax can transmit and receive printed messages and documents at the rate of a million words per minute. This speed is achieved by transmitting full pages of information as television pictures at the rate of 15 to 30 per second. Steps involved in the transmission include the preparation of the data, scanning of the data and transmission as a television image, and recording of the received image on motion picture film. The film is processed quickly by equipment similar to that used during the war for V-mail. One suggested possible use is for bringing various publications directly into the home.

A printing process that depends on electrostatic effects was developed at Battelle Memorial Institute, Columbus, Ohio. Given the generic name "xerography," it is based on the ability of certain insulating materials to become electrically conductive when acted upon by light, and on the electri-

cal attraction of dissimilar materials in contact. By exposing a plate of the material to an image pattern under a projection lamp, a "latent electrical image" is formed. The printing process then consists of using electrostatic effects to cause the plate to deposit a powder on the paper which can be developed by heat or a spray. The process is said to be dry, fast, simple, and cheap.

Further progress was made during the year in reducing the size of electronic equipment by the use of miniature tubes and printed circuits. Reduction in size sometimes has required special insulating materials because of increases in operating temperatures.

A major change in phonograph records for use in the home began in June when Columbia introduced a long-playing record designated as "LP" or microgroove which, by operating at 33 $\frac{1}{3}$ r.p.m. and having approximately twice as many grooves per inch as the standard 78 r.p.m. record, reproduces 45 minutes of recording on a single 12-inch record. Because of the difference in speed and the necessity for a stylus or needle having smaller diameter and lighter pressure than the conventional pickup unit, manufacturers began production of record players having two-speed motors and provision for pickups having suitable characteristics to accommodate both types. Sales of records were reported to total 1.5 million for the LP type.

Meanwhile RCA-Victor was developing a different type of record to be played at 45 r.p.m. Records operating at 33 $\frac{1}{3}$ r.p.m. had been introduced to the public in the early 1930's, but were not satisfactory at that time.

A new type of phonograph pickup was announced in which the needle movements are transmitted directly to an element of an electron tube through a thin vacuum tight diaphragm in the envelope of the tube. The movement of the element causes the mechanical motion to be converted to electrical pulses.

An entirely new type of metal lens for focussing radio waves in radio relay systems was developed in Bell Telephone Laboratories. Based on the theories of light transmission through atomic and molecular structures, the lenses are built by scaling up the molecular lattice structure of a non conductor, such as glass, and then substituting electrically conductive elements for the molecules. The elements may be small strips of conducting material rather than spheres. Lenses constructed on this principle have been shown to be usable over a much wider band of wave lengths than former lenses. From 50 to 100 television channels or tens of thousands of simultaneous telephone messages are theoretically within the capacity of the broad band lens.

Growth of power systems, with their increasing complexity and interconnections, has had its effect in the field of communications in so far as that specialized method of transmission known as power line carrier is concerned. One means proposed for relieving the congestion in communication channels provided by the power lines themselves was the use of single sideband transmission, in which the carrier frequency and one sideband are suppressed. The potential number of communication channels is thereby doubled. Microwave space radio also was proposed as a method of communication to be considered by power companies.

Special developments were aimed at improving systems for railroad and airline reservations. The Chesapeake and Ohio Railway established a central reservation bureau in Huntington, W.Va., which can be reached directly by a local telephone

call from most of the principal cities served by the railroad. An electric reservation system was developed under the name of "Intelix" which will make and confirm a reservation in 10 seconds. Operations are performed by circuits using relays, switches, and tubes. A brief coded message of reservation, cancellation, or inquiry may be transmitted by teleprinter from any local office and with no further manual operations the machine will reply automatically to the teleprinter in the office originating the order. Information on the status of all reservations on any specific journey may be obtained at any time.

A new instrument designed and being assembled for radio astronomy investigation at Cornell University with the joint sponsorship of the Office of Naval Research emphasizes the decreasing gap between light waves and radio waves as the frequencies of the latter are made higher and higher. It is a telescope using a sensitive radio receiver fed by a small antenna at the focal point of a 17-foot parabolic reflector instead of visual or photographic observation, and may be used under all types of weather conditions. The sun radiates at all frequencies of the electromagnetic spectrum, but the radio telescope will accept only a small range of frequencies. Whereas optical telescopes have a resolving power of the order of tenths of a second of arc, the radio telescope will have a resolving power of the order of degrees.

A vital part of many items of communication equipment is a crystal of quartz, used to control the frequency. Experiments at Bell Telephone Laboratories showed that it was possible to grow crystals of quartz and thereby produce a source of supply independent of natural supplies. The product is identical in every respect with that of nature, and is produced under heat and pressure from a form of silicon.

A necessary adjunct for progress in communications is progress in the field of measurements. Several advances were made during the year. The United States National Bureau of Standards constructed an atomic clock in which a quartz-crystal oscillator and frequency multiplier chain are locked to an absorption line of ammonia gas at a frequency of 23,870.1 megacycles. The crystal drives a clock through frequency dividers and gives a new standard of physical or atomic time with a potential accuracy of one part in 100 million. The accuracy is permanent because the absorption line is invariant with age.

The Bureau also developed microwave frequency standards in the range of frequencies from 300 to 100,000 megacycles and higher. Such frequencies are available for application to radar, navigation systems, storm and weather reporting, relays for frequency modulation and television broadcasting, blind bombing, guided missiles, and many other uses, both civilian and military.

In connection with studies of radio wave propagation the Bureau also developed an improved electronic phase meter. Designed for a frequency range from 100 to 5,000 cycles per second, the new instrument reads and records directly the phase angle between two sinusoidal voltages having a variation of 1 to 30 volts. A sensitivity of 0.5 degree is attained.

Radio. In the United States the Federal Communications Commission called attention to the need for more regulation or better scientific techniques to make room for all the radio, television, and short-wave broadcasters who want to get space on the air. At mid-year it was reported that there were 131,000 authorized radio stations, plus 150,-

000 mobile stations such as aeronautical, marine, radar, police, fire, and railroad units. Taxicab companies in the cities use 3,000 stations, and about the same number are used in general industry.

The Commission estimates that 37 million families—94 percent of the families in the United States—have one or more receivers. As of June 30, there were 3,163 major broadcasting outlets authorized, including 2,034 standard radio stations, 1,020 FM outlets, and 109 television stations. About 2 million FM receivers were in use in homes. During the year as a whole, manufacturers produced 16 million receivers to give the public an estimated total of 74 million in working order and 5 million more out of order. However, the big wartime accumulation of demand for sets was found to have been wiped out, and many manufacturers turned to television to keep their total business at or above 1947 levels.

Wire and radio telephone communication circuits may be combined to provide telephone service to large groups of mobile units on a common carrier basis. The calling arrangement rings a bell only in the automobile of the one subscriber with whom communication is desired. Such systems have been put into use in many places in the United States, and at the beginning of 1948 there were about 102 land stations serving 4,000 mobile units. To provide service to more than a very few units in a city, more than one frequency channel must be used. A typical land station consists of a 250-watt transmitter together with several fixed receivers placed at favorable locations within the service area to pick up signals from the mobile units. Transmitters of the latter have a power output of from 20 to 40 watts. Operation is in the frequency ranges of 30-44 and 152-162 megacycles.

A new type of radiotelephone system was installed on the Cunard White Star Line's new liner *Caronia*, said to be the first ship in the world to use single sideband telephony—a system hitherto used only on intercontinental radiotelephone circuits to provide improved speech transmission.

Telegraphy. Significant steps were taken toward speeding telegraph service, oldest of the electrical means of communication. Progress was reported in the expansion of facilities in the Mexican Republic, where development has been slow because of the difficult terrain in many regions. Although the telegraph was introduced in 1852, some parts of Mexico have no direct telegraph communication with the capital.

In carrying out an improvement plan that was begun under the presidential term dating from December, 1946, the first steps have been taken toward providing more capacity in already overloaded channels by adding copper circuits. Subsequent plans call for the installation of carrier equipment and improvement of the national radio network by the use of the most modern devices. Because both radiotelephone and radiotelegraph are under control of the Ministry of Communications and Public Works, they are used one with the other to provide maximum service.

In the United States the Western Union Telegraph Company has been turning to the use of microwave radio-relay circuits to provide additional channels. Repeater switching arrangements were installed in many large cities which, in combination with an extensive wire carrier and radio telegraph system, will handle practically all of the company's telegraph traffic. Many private wire systems were installed on the premises of the company's patrons to handle their own messages.

Telephony. The total number of telephones in the world reached 60.6 million on Jan. 1, 1948, an increase of 6 million over the figure for the same date in 1947, according to statistics made available by the American Telephone and Telegraph Company. The number in the United States increased from 31.6 million to almost 34.9 million, but the percentage of the total decreased from 57.9 to 57.5. Thus in a period of one year as many telephones were added as were installed in all the first 25 years after its invention. In the number of telephones per 100 population, San Francisco, Calif., led the world, with Stockholm, Sweden, second, and Geneva, Switzerland, third.

In telephone conversations per capita, however, the order is the United States, Canada, and Sweden in the first three places. In the territory of the Pacific Telephone and Telegraph Company, one million new subscribers were gained in the period between V-J day and September, 1948, but the population on the Pacific Coast was shifting so rapidly that this gain involved the installation of 3 million and the removal of 2 million instruments.

During the year 1948, operating companies in the Bell System added more than 2.8 million telephones, but there still were about 1.2 million unfilled applications on hand at the year-end, and demand continued strong. The volume of telephone calling continued upwards, with the number of local and long distance calls handled by Bell companies averaging 167.3 million a day for the first 11 months.

In July a complex system called automatic message accounting was placed in service in Media, Pa., a suburb of Philadelphia, after having been in the making for more than 15 years. By means of the system all dial telephone calls through a telephone central office are recorded, sorted, and the bill of each subscriber computed. By the elimination of the multitude of meters and human computations which now monitor the price of dial telephone service, the new system is expected to increase the accuracy of billing and gradually extend the area for direct dial calls. Eventually it is planned to be integrated with long-distance toll dialing.

Data for the system are punched on a 3-inch-wide paper tape in a numerical code. The origin, destination, and the time and duration of the call are indicated by the position of holes in the tape, which then goes through highly complex sorting and computing machines for analysis. Information is produced on typed slips for each subscriber and then is transcribed onto the actual bill by clerks.

In August the first units of a rotary dial telephone switching system that is new to the United States but which long has been standard with International Telephone and Telegraph Company and other operating companies throughout the world were placed in service in Rochester, N.Y. The city is served by the second largest independent telephone company in the country, and is being converted from manual to dial operation.

After several years of hearings before the FCC regarding the use of recording devices on telephones, Government regulations were issued requiring that the installation of such equipment be performed by the telephone company and that provision be made to let telephone users know that the conversation is being recorded. An automatic tone device is used to produce a signal at intervals of about 15 seconds as long as the recorder is in use, except on private lines which cannot be connected with the general telephone exchange.

Toll dialing networks were placed in operation

at New York, N.Y., and Chicago, Ill., late in November and early in December. The installations were steps in the plan of the Bell System for a complete long distance dial service to all parts of the United States and Canada under the method which permits operators to put calls through to distant telephones directly without the aid of other operators en route. With equipment already in operation in Philadelphia, approximately 10 percent of the nation's traffic between toll centers is being handled by operator toll dialing.

Construction of a coaxial cable between Philadelphia and Cleveland was completed and it was placed in long distance telephone service in November; eventually it also will provide facilities for television. About two thirds of the cable was plowed directly into the ground and the remaining third was placed in conduits. Steel-armored submarine coaxial cable was used in crossing the larger streams and rivers along the route. Another completed coaxial cable is one that extends 3,000 miles from Miami, Fla., to Los Angeles in California.

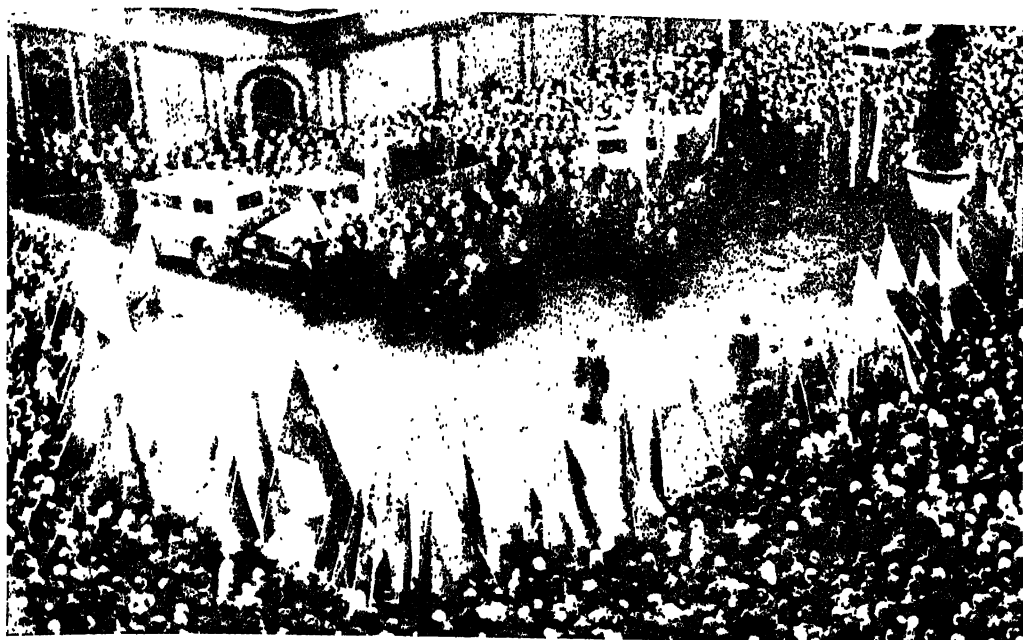
A private communications network which is entirely automatic was installed for Pan American Airways, Inc., in order to relay messages concerning reservations, operations and other business matters between some 16 offices located throughout the nation. Messages are typed on one teletypewriter which prepares a tape that is placed in a transmitter. Switching equipment is controlled by coded characters at the beginning of each message and selects the proper circuits and stations.

G. ROSS HENNINGER

COMMUNISM. In 1948, as in 1947, the story of world Communism was the story of the cold war between the Soviet Union and the United States. This year, however, not all the advantages were on the side of the U.S.S.R. Russia tightened its grip on Czechoslovakia, but lost control of Yugoslavia. Communism was defeated, temporarily at any rate, in Italy, and the Communists lost ground in most of western Europe. In China, however, and in parts of southeastern Asia, Communist forces made marked advances.

Czechoslovakia. For some time after its liberation, Czechoslovakia was the one country within the Soviet sphere of influence in which Communists were willing to cooperate with non-Communists. In 1948 it ceased to be an exception to the rule. Late in 1947 the Communists waged a successful struggle against the Slovak Democratic Party, and in January, 1948, they turned their attention to the Czech National Socialist Party. Challenged by opposition leaders, they moved on February 13 to complete their control of the police. When all the non-Communist groups protested this move, the Communists staged a demonstration of factory workers, with threats of violent revolution.

Yielding to this pressure, President Eduard Beneš appointed Klement Gottwald, Communist leader, as Premier, with a Cabinet made up of Communists and their allies. Non-Communists were purged from office, and the Communists announced an election on May 30 with a single slate of candidates. On June 7, refusing to sign the Constitution drawn up by the Communists, Beneš resigned his office. Gottwald became President on June 14, and Antonin Zapotocky, the new Premier, appointed a Cabinet that was even more firmly under Communist control than its predecessor. During the following months the Communists took steps to hasten the nationalization of industry, moved to control the Sokol and other popular or-



COMMUNIST COUP in Czechoslovakia during February 1948. A view (above) of Prague's Wenzel Place where the Communist Premier Gottwald announced the Communist victory to the thousands of people assembled.



DANUBE CONFERENCE in 1948 adopted the Soviet Plan creating a special Rumanian-Soviet Administration for the Danube's river traffic. Photo shows Rumania's Foreign Minister, Ana Pauker, with her aides. ▶

Photos from European



CZECH PARLIAMENT in London. Thirty-five Czechoslovak members of parliament who escaped from their country since the Communist coup d'état and met in London during 1948 to discuss the general elections in their country and other major events connected with the activities of the Communist Party.

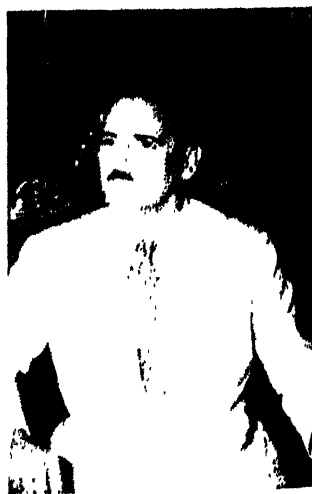
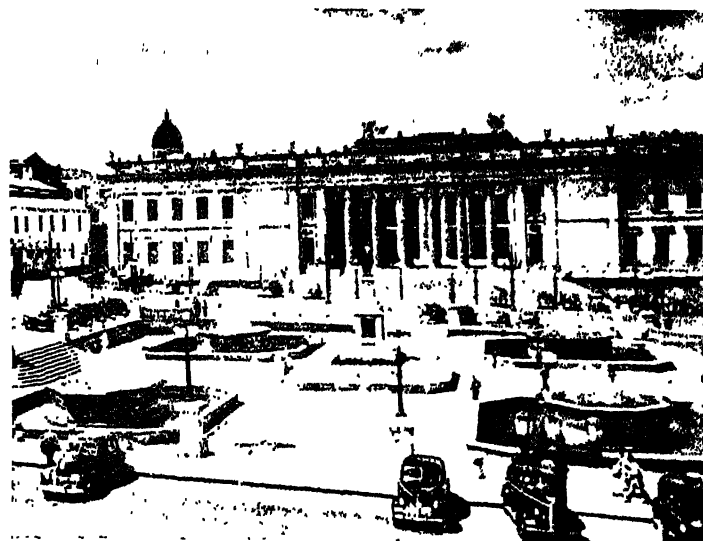


Wide World

BULLETS IN BOGOTÁ: Colombia was the scene of a revolt during the Ninth Inter American Conference of American states at Bogotá, April 9, on which international political attention was focused. The photograph shows one of the scenes of rioting and looting as a streetcar is overturned and burned during the riot.

REVOLT IN COLOMBIA occurred on April 9 when a serious uprising broke out in Bogotá. Photo shows the Capitol building and the Cathedral in Bogotá

European



European

PRESIDENT OF CUBA: Dr. Carlos Prío Socarrás was elected President of Cuba on June 1, 1948. He was inaugurated on October 10, 1948.



▲ **MISSION FOR AID.** Mme Chiang Kai-shek, an American military man at her back, arrives in the U.S. on her mission for money and support of the cause of the Nationalists.



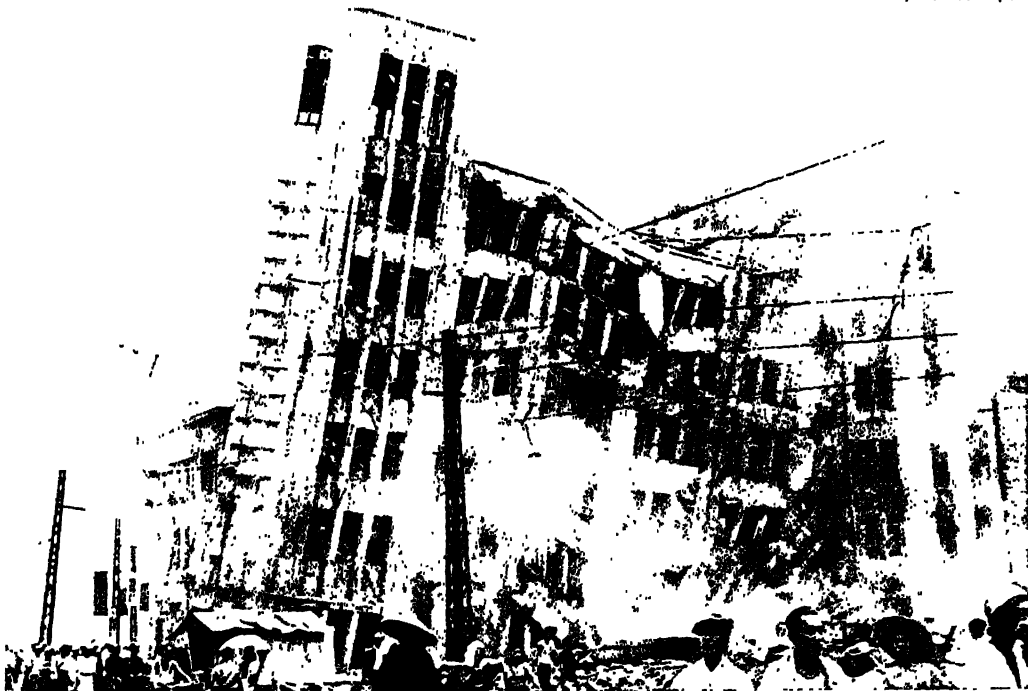
▲ **REPUBLIC,** by proclamation, is established in Korea—U.S. zone. Syngman Rhee (right), its President, takes active part in the celebration for Korea's newly acquired independence.



▲ **GENERAL MAO TSE-TUNG**, Chairman of the Chinese Communist Party, sits at his desk in a cave headquarters somewhere in the northwest of China. By the end of 1948, China's communists had won virtually all of northern China and had effected the broadest move in China's deep social upheaval since the time of their split with Chiang Kai-shek's Kuomintang during the year 1927.

MORE DEATH IN JAPAN. The silk center of Fukui is hit by an earthquake which destroys over 19,000 buildings in thirty seconds. The disaster caused the loss of over 3,000 lives and more than 10,000 persons were hurt.

Photos from European





ORDINATION, a view of the ordination ceremony performed during 1948 by Cardinal Suhard, Archbishop of Paris, at Notre Dame Cathedral.

DEVALUED FRANC. A French newspaper, dated Jan. 27, 1948, announces the devaluation of the French currency values. ▼



LABOR IN UNREST: Thousands of organized workers at the Boulevard Haussmann in Paris demonstrate against heavy licensing. A number of the demonstrators are throwing objects at the policemen in rear. ▶



ganizations, and reshaped the educational system for the propagation of their ideas.

Yugoslavia. If the Communist seizure of Czechoslovakia had often been predicted, the defection of Yugoslavia surprised most observers. There were indications, to be sure, that perfect harmony did not exist between Tito and the rulers of Russia, but it seemed unlikely that the Yugoslav leader would dare to defy Moscow. The world was startled and bewildered when, on June 28, the Communist Information Bureau (Cominform) denounced Tito and other leaders of the Yugoslav Communist Party as opportunists, bureaucrats and terrorists, who had carried out "a hateful policy" towards the Soviet Union despite professions of friendship.

One can only surmise that the Soviet leaders had first tried to bring direct pressure upon Tito and that he had proved recalcitrant. Then, in all probability, there was an attempt to take the Communist Party—and thus Yugoslavia itself—away from Tito, but his personal prestige and prompt action prevented this. Thereupon there was nothing for Russia to do but to express its disapproval through the Cominform.

Tito immediately responded to the Cominform charges with an assertion of his complete fidelity to Marxist-Leninist principles. While the other satellite states reaffirmed their loyalty to the Soviet Union and echoed the Cominform's attacks on Tito, he quietly purged his enemies from the party and from the Government, and by the end of the summer his power appeared to be undisputed. It was reported that some Yugoslav Communists were organizing against Tito in various neighboring countries, with the blessings of the satellite governments, but there was no evidence of a movement powerful enough to cause Tito concern.

Through all this, Tito not only proclaimed himself a good Communist but continued to administer Yugoslavia in the typical Communist police-state manner. In a speech on November 11, he warned "exploiting capitalist elements" that the struggle against them would continue until they were exterminated. At the same time he notified his Cominform critics that the way Yugoslavia was building Socialism was none of their business. For the moment there was a deadlock; while rejecting interference in domestic affairs, Tito announced his support of Soviet foreign policy, and was obviously eager to avoid trouble with his powerful neighbor.

Soviet leaders, for their part, were equally eager not to throw Yugoslavia into the hands of the western powers. It seemed unlikely, however, that this situation could endure if relations between Russia and the West continued to deteriorate. Either Russia would find some way of eliminating Tito and drawing Yugoslavia back into the Soviet orbit or he would be forced to come to some sort of terms with the West.

Elsewhere in Eastern Europe. For the Russians, the Yugoslav episode must have been a demonstration of the continuing power of nationalist sentiments and a warning that this was the rock on which all their plans might be wrecked. Within the Soviet sphere of influence, Tito's success may have encouraged other nationalists, but Russia had no intentions of permitting further defections.

In Poland, for example, a milder nationalism than Tito's was quickly suppressed. Apparently Vice Premier Wladyslaw Gomulka objected to the Cominform program for the rapid nationalization of the land as unsuited to Polish conditions. Gomulka was thereupon deposed as secretary general of the Communist Party, and on September 5 his place was taken by President Boleslaw Bierut. (Al-

though he had been a Communist for many years, Bierut had at least pretended to remain aloof from party affairs while he was serving as President of Poland.) Gomulka bowed to party discipline and repudiated his "errors." They were due, he said, to his failure to understand the "real ideological meaning of relations between the peoples' democracies and the Soviet Union" and "the leading role of the All-Union Communist Party of Bolsheviks (i.e. the Russian Communist Party) in the international front in the battle against imperialism." After the successful disciplining of Gomulka, Bierut took up the task of absorbing the Socialist Party, and 16 leaders were expelled from the Socialist Party because of their opposition to amalgamation with the Communists.

In Finland there has always been an avowed opposition to the Communists, but this opposition has sought to conciliate them rather than risk trouble with Russia. It therefore took great courage for President Juho K. Paasikivi to dismiss Yrjo Leino, a leading Communist, as he did on May 23. As Minister of the Interior, Leino had control of the police, and it was obvious that Paasikivi feared such a coup as had taken place in Czechoslovakia.

The Communists responded with extensive strikes, and Paasikivi finally had to yield. A Communist sympathizer was made Minister of the Interior, and a Cabinet position was given to Leino's wife, Herta Kussinen, who is the daughter of the President of the Finnish Karelian Soviet Republic and is regarded as the real power in the Finnish Communist Party. On July 1 and 2, however, the Finnish people showed their support of Paasikivi by voting four to one against the Communist-dominated People's Democratic Union. Karl August Fagerblom, a Social Democrat, became Premier, and under his leadership Finland continued to pursue its difficult course, in spite of Communist-led strikes and pressure from the Soviet Union.

Germany. In Germany, as in some other countries, it appeared that Communist leaders were not satisfied with the condition of their forces. In May, William Pieck and Otto Grotewohl, co-chairmen of the Socialist Unity Party (SED), the Communist front, denounced the lethargy and defeatism of their associates, and in following months many former Social Democrats were expelled from the Unity Party. Apparently the Communists, who had been so eager to absorb the Socialists, were discovering that the converts were not wholly dependable from the Communist point of view, and the Communists could not tolerate these weaknesses at this particular time.

On November 30, a few days before the municipal elections in Berlin, the Communist Party set up an independent government in the Soviet sector of the city. In the western zone, the Social Democrats won an impressive victory on December 6. Observers believed that by spring the Communists would proclaim a constitution for all Germany, which would be put in operation in the Soviet zone. Thereafter, it seemed likely, Soviet forces would withdraw, leaving the administration of eastern Germany to the Communist front. It was conceivable that such a move could have propaganda value in the whole of Germany, but the Communist leaders themselves seemed uncertain that they were ready to carry it out.

Western Europe. In most of western Europe Communist influence has declined as economic recovery has progressed. In France and Italy, however, the situation has remained critical despite the Communist setback in the Italian election of April 19 and 20.

From May, 1947, when they were finally ousted from Alcide de Gasperi's Cabinet, the Italian Communists worked ceaselessly for the defeat of the Premier and his Christian Democratic Party. Their efforts were met, however, by the vigorous opposition of the Catholic Church and the various anti-Communist parties. Communists centered their attack on the United States, maintaining that this country intended to enslave the Italians and involve them in war with Russia. Anti-Communists replied by pointing to the dependence of Italy on American aid, which, they argued, would not be forthcoming if the Communists controlled the country. In the end the Christian Democrats won a clear majority in the Chamber of Deputies, with 307 seats to 182 for the Popular Front (Communist). The Popular Front received only 30.7 percent of the votes, as against the Christian Democrats' 48.7 percent.

Particularly noteworthy was the decline of the Communist vote in the industrial cities of northern Italy. Communist-led strikes developed in the months following the election, but even after the attempted assassination of Palmiro Togliatti, Communist leader, in July, strikes and other demonstrations seemed less effective than they had once been. On October 10 the Central Committee of the Italian Communist Party reminded Communists that "the strength of the Soviet Union and the political capacity of the glorious Bolshevik Party and its leaders are decisive guarantees of victory over the forces of reaction and war," and appealed for greater militancy and a higher ideological level.

The membership of the Communist Party in France, according to some observers, declined sharply in 1948, but the Communists remained strong enough to embarrass the Government, and they helped to precipitate a series of cabinet crises. In the autumn the Communists initiated a coal strike, with the dual purpose of making difficulties for the Marshall Plan and crippling the Government of Henri Queuille. The strike continued for many weeks, causing incalculable economic loss, and was marked by violence and sabotage.

Elections on November 7 to the advisory Council of the Republic (formerly the Senate) indicated that General de Gaulle was likely to be the chief gainer if disorders and parliamentary crises continued, for the Gaullists emerged as much the strongest party, and Communist representation dropped from 84 to 16.

United States. The attack on American Communists continued from several quarters in 1948. Several prominent Communists, including Alexander Bittelman and Jack Stachel, both members of the party's national committee, were arrested as illegal aliens and held for deportation. Twelve party leaders were indicted in New York City under the Smith Act, being charged with conspiracy to teach and advocate the forcible overthrow of the Government. Committees of both the House and Senate and also several state legislative committees were engaged in investigating Communist activities.

Although public indignation against the Communists was higher than at any time in recent years, and sometimes approximated hysteria, the Communist Party did not seem to be particularly menacing. Its influence in the labor movement continued to decline. Michael J. Quill, President of the Transport Workers Union, broke with the Communists in that union, after having long been regarded as their spokesman, and led a vigorous fight against Communist control. Few of the larger unions followed the Communist line in 1948.

The Communists could and did claim credit for

the organization of Henry Wallace's Progressive Party, and they devoted a large share of their energies to the Wallace campaign. Because the Progressive Party provided a "front" for the Communists and gave them an opportunity to reach large numbers of people, they may have felt that their efforts were profitable. Their polemic men, however, admitted that the concrete result, as measured in votes, was disappointing.

China. The struggle of the Chinese Communists for Manchuria, which began as soon as the war with Japan ended, achieved a large measure of success in 1948. In February the Communists captured Yingkow, a major port. There was fighting all through the spring and summer, with some victories for Chiang Kai-shek's Nationalist armies, but more for the Communists, and finally, in November, Mukden, the principal Manchurian city, fell into Communist hands. The Communists had already made considerable gains in northern China, and after the fall of Mukden, they launched a heavy attack against Suchow and threatened Nanking, the Nationalist capital. In the meantime, they had succeeded in setting up many bases in the southern provinces, from which they harassed Nationalist troops in guerrilla warfare. In late December it was obvious that the Communists dominated the military situation, and, as the fighting slowed down, observers assumed that negotiations were going on, perhaps looking towards the formation of a coalition government. Whatever might happen, the Communists were clearly destined to play an important part in the future of China.

A rather significant political development was the merging in June of two large Communist areas in northern China into a single administrative and military unit. The new North China Liberated Area had a population of 44,000,000 and included several major cities. In August an assembly was held, and a North China People's Government was set up. This was described by the Communists as a forerunner of a people's government for all China, and the assembly included representatives of areas held by the Nationalists.

On the anniversary of the Russian Revolution, Mao Tse-tung, Chairman of the Chinese Communist Party, and Chu Teh, Commander of the Chinese Red Army, sent a message of congratulation to Premier Stalin: "We hail the constant strengthening of the U.S.S.R., bulwark of world peace and democracy, and close cooperation between the peoples of China and the Soviet Union." Mao Tse-tung also released a statement denouncing "the extreme rottenness of the capitalist world," and calling upon the Chinese people to drive out "the aggressive forces of American imperialism" and to overthrow the government of Chiang Kai-shek.

Elsewhere in Asia. In a broadcast on Dec. 25, 1947, Mao Tse-tung proposed the formation of an Asian Cominform. Although no such organization was known to exist, many observers pointed out that there was close cooperation among the Communist parties of southeastern Asia. Communists were not numerous in Indonesia, but they had great influence, especially in Java.

In September Communists captured Madiun, one of Java's principal cities. In French Indochina, French and colonial troops were unable to suppress the Viet Namese revolutionaries, whose leaders were Communists. British authorities outlawed the Communist Party and its allies in Malaya, but Communist guerrillas succeeded in paralyzing Malayan industry. In Burma and in India there was a constant ferment stirred by Communists, and the premier of Siam announced in November that he

was taking strong measures to forestall a Communist revolt.

By the end of the year, 1948, it was apparent that, even if the western democracies had made some progress in Europe, they were a long way from winning the battle for the world.

—GRANVILLE HICKS

COMMUNITY CHESTS AND COUNCILS OF AMERICA, Inc. The national association of Community Chests and Councils of Social Agencies, organized in February, 1918, as a national clearing house of ideas and services for local Community Chests and Councils of Social Agencies. For description see YEAR BOOK for 1939, page 161.

Of the 1,369 Community Chests and Councils of Social Agencies in operation in August, 1948, (1,010 Chests and 361 Councils), 964 Chests and 336 Councils were in continental U.S.; 4 Chests and 3 Councils in Hawaii; 38 Chests and 21 Councils in Canada; 2 Chests in South Africa; 1 Chest in the Virgin Islands; 1 Chest in Puerto Rico; and 1 Council in the British West Indies. Almost every city in the U.S. (except New York City, which has a limited joint financing organization) in 1948 had a Community Chest or similar plan of federated financing for its voluntary social services. In 1,010 cities in 1947 more than 16,000,000 contributions totaling \$177,034,294 were given to Community Chests to be used during 1948 for voluntary Red Feather services in local communities. In 1948 the reactivated USO got its major financial support through inclusion in Chest campaigns throughout the country.

Officers for 1948 were: Honorary President, Gerard Swope; President, Edward L. Ryerson; Vice-Presidents, J. B. Adoue, Jr., H. L. R. Emmet, Philip Morgan, Mrs. Henry P. Russell; Treasurer, Milton H. Glover; Secretary, Mrs. Oswald B. Lord; Executive director, Ralph H. Blanchard. Headquarters: 155 East 44 St., New York 17, N.Y.

COMMUNITY FACILITIES, Bureau of. During 1948 the Bureau of Community Facilities of the Federal Works Agency administered the following programs:

Advance Planning Program. The provisions of the War Mobilization and Reconversion Act of 1944, under which the Bureau made advances to State and local governments for the planning of non-Federal public works, expired June 30, 1947. During 1948 the Bureau concentrated on speeding up the completion of approved plans, reviewing completed plans to insure readiness for construction, and collecting repayments when construction began.

Veterans' Educational Facilities Program. Under Public Law 697, 79th Congress, war surplus buildings and facilities, other than housing, were transferred to colleges and universities requiring them for the training or education of veterans under the G.I. Bill of Rights.

Disaster Surplus Property Program. The program was established by Public Law 233, 80th Congress, July, 1947. Surplus personal property was lent or transferred to State and local governments to assist them in the alleviation of damage caused by flood or other catastrophe.

Water Pollution Control Program. On June 30, 1948, the Water Pollution Control Act was approved (Public Law 845, 80th Congress). The Bureau was engaged in studies preliminary to the making of grants and loans to State and local governments for treatment works to control pollution in interstate waters.

Maintenance and Operation of Schools. The Bureau furnished financial aid in the maintenance and operation of certain schools which were in need of such aid after the discontinuance of Federal grants under the Lanham Act Program.

Public Works Programs in the Virgin Islands and Hawaii were also administered in 1948.

COMMUNITY TRUSTS. The aggregate charitable resources of upwards of 60 community trusts and foundations had risen to \$81,362,269 at the beginning of 1948 from \$77,835,014 a year before. The New York Community Trust administers 85 memorial funds having a value of \$17,398,817. Resources of \$13,250,000 were reported by the Chicago Community Trust; \$10,814,276 by the Cleveland Foundation; \$8,452,154 by the Permanent Charity Fund, Boston; and \$4,794,929 by the California Community Foundation, Los Angeles.

Philanthropic distribution from these funds rose to \$2,250,169 in 1947 from \$2,205,459 in 1946. The largest outpayments were in New York \$594,019; Chicago, \$368,542; Cleveland, \$301,240; and Boston, \$258,842. Gifts to the community foundations in 1947 totaled \$9,464,875. The largest receipts were in Boston, \$2,471,398; Pittsburgh, \$1,801,553; Winston-Salem, \$1,715,699; and New York, \$599,263. During 1947, foundations in Newton Centre, Mass., and Seattle, Wash., received their initial principal funds.

Community trusts are administrative media for multiple charitable funds, each of which retains its separate identity within the trust. A distinguishing feature of these trusts is their power to amend the uses for which particular funds are applicable, if, in changing conditions, originally designated charitable purposes become obsolete.

Directing personnel of the New York Community Trust, 120 Broadway, New York 5, include Thomas M. Debevoise, Chairman of the Distribution Committee, Winthrop W. Aldrich, Chairman of the Trustees' Committee, and Ralph Hayes, Executive Director.

COMPTROLLER OF THE CURRENCY, Bureau of the. A Bureau of the U.S. Department of the Treasury which has general supervision over national banks; established 1863. Comptroller: Preston Delano.

CONGREGATIONAL CHRISTIAN CHURCHES. The Congregational churches in America date back to the early settlers in Massachusetts, in 1620. The Christian churches originated at the time of the Wesleyan and revival movements of the 18th century. These two church groups merged in 1931. From earliest days the denomination has preached and taught democratic ideals and has fostered colleges, schools, and social agencies.

The denomination includes 5,765 self-governing churches, 3,312 pastors, 2,732 ordained persons engaged as educators, chaplains, missionaries, etc., with a total membership of 1,173,626 in the United States. There are 489 missionary churches with 95,640 members.

Contributions totaled \$5,536,816 (1947), investments, \$35,611,583, and church property had a value of \$205,184,715. The American Board of Foreign Missions reported income of \$1,917,862, while the total income of all national agencies from all sources was \$3,764,134. Headquarters: 287 Fourth Ave., New York 10, N.Y.

CONGRESS, United States. The 81st U.S. Congress convened for its first session on Jan. 3, 1949. As of that date, it comprised the following members:

United States Senate. Alben W. Barkley is Vice President of the United States and President of the Senate.

President pro tempore: Kenneth McKellar
Chaplain: Rev. Peter Marshall

Majority floor leader: Scott Lucas

Majority whip: Francis J. Myers

Minority floor leader: Kenneth S. Wherry

Minority whip: Leverett Saltonstall

Secretary of the Senate: Leslie L. Biddle

Secretary for the majority: Felton Johnston

Secretary for the minority: J. Mark Trice

Sergeant at arms: Joseph C. Duke

Chief clerk: Emery L. Frazier

Democratic Senators (54) are indicated by (D);
Republican Senators (42) by (R), in the list following.

<i>Senator</i>	<i>Address</i>	<i>Term Expires</i>
Alabama		
Lister Hill (D)	Montgomery	1951
John Sparkman (D)	Huntsville	1955
Arizona		
Carl Hayden (D)	Phoenix	1951
Ernest W. McFarland (D)	Flagstaff	1953
Arkansas		
John L. McClellan (D)	Camden	1955
J. William Fulbright (D)	Fayetteville	1951
California		
Sheridan Downey (D)	La Jolla Beach	1951
William F. Knowland (R)	Oakland	1953
Colorado		
Edwin C. Johnson (D)	Craig	1955
Eugene D. Millikin (R)	Denver	1951
Connecticut		
Brien McMahon (D)	Norwalk	1951
Raymond E. Baldwin (R)	Stratford	1953
Delaware		
John J. Williams (R)	Millsboro	1953
J. Allen Frear, Jr. (D)	Dover	1955
Florida		
Claude Pepper (D)	Tallahassee	1951
Spessard L. Holland (D)	Bartow	1953
Georgia		
Walter F. George (D)	Vienna	1951
Richard B. Russell (D)	Winder	1955
Idaho		
Glen H. Taylor (D)	Pocatello	1951
Bert H. Miller (D)	Boise	1955
Illinois		
Scott W. Lucas (D)	Itasca	1951
Paul H. Douglas (D)	Chicago	1955
Indiana		
Homer E. Capehart (R)	Washington	1951
William E. Jenner (R)	Bedford	1953
Iowa		
Bourke Hickenlooper (R)	Cedar Rapids	1951
Guy M. Gillette (D)	Cherokee	1955
Kansas		
Clyde M. Reed (R)	Parsons	1951
Andrew F. Schoepfel (R)	Wichita	1955
Kentucky		
Garrett L. Withers (D)	Dixon	1951
Virgil Chapman (D)	Paris	1955
Louisiana		
Allen J. Ellender (D)	Houma	1955
B. Russell Long (D)	Baton Rouge	1951
Maine		
Owen Brewster (R)	Dexter	1953
Margaret Chase Smith (R)	Skowhegan	1955
Maryland		
Millard E. Tydings (D)	Havre de Grace	1951
Herbert R. O'Connor (D)	Annapolis	1953
Massachusetts		
Leverett Saltonstall (R)	Boston	1955
Henry C. Lodge, Jr. (R)	Beverly	1953

<i>Senator</i>	<i>Address</i>	<i>Term Expires</i>
Michigan		
Arthur H. Vandenberg (R)	Grand Rapids	1953
Homer Ferguson (R)	Detroit	1955
Minnesota		
Edward J. Thye (R)	Southfield	1953
Hubert H. Humphrey (D)	Minneapolis	1955
Mississippi		
James O. Eastland (D)	Biloxville	1955
John Stennis (D)	Pekah	1953
Missouri		
Forrest C. Donnell (R)	Webster Groves	1951
James P. Kem (R)	Kansas City	1953
Montana		
James E. Murray (D)	Butte	1955
Zales N. Eaton (R)	Manhattan	1953
Nebraska		
Hugh Butler (R)	Omaha	1953
Kenneth S. Wherry (R)	Pawnee City	1955
Nevada		
Patrick A. McCarran (D)	Reno	1951
George W. Malone (R)	Reno	1953
New Hampshire		
Styles Bridges (R)	Concord	1955
Charles W. Tobey (R)	Temple	1951
New Jersey		
H. Alexander Smith (R)	Princeton	1953
Robert C. Hendrickson (R)	Woodbury	1955
New Mexico		
Dennis Chavez (D)	Albuquerque	1953
Clinton P. Anderson (D)	Albuquerque	1955
New York		
Robert F. Wagner (D)	New York	1951
Iving M. Ives (R)	Norwich	1953
North Carolina		
Clyde R. Hoey (D)	Shelby	1951
J. Melville Broughton (D)	Raleigh	1955
North Dakota		
William Langer (R)	Bismarck	1953
Milton R. Young (R)	Berlin	1951
Ohio		
Robert A. Taft (R)	Cincinnati	1951
John W. Bricker (R)	Columbus	1953
Oklahoma		
Elmer Thomas (D)	Medicine Park	1951
Robert S. Kerr (D)	Oklahoma City	1955
Oregon		
Guy Carlton (R)	Roseburg	1955
Wayne Morse (R)	Eugene	1951
Pennsylvania		
Francis J. Myers (D)	Philadelphia	1951
Edward Martin (D)	Washington	1953
Rhode Island		
Theodore F. Green (D)	Providence	1955
J. Howard McGrath (D)	Providence	1953
South Carolina		
Burnet R. Maybank (D)	Charleston	1955
Olin D. Johnston (D)	Spartanburg	1951
South Dakota		
Chan Gurney (R)	Yankton	1951
Karl E. Mundt (R)	Madison	1955
Tennessee		
Kenneth McKellar (D)	Memphis	1953
Estes Kefauver (D)	Chattanooga	1955
Texas		
Tom Connally (D)	Marlin	1953
Lyndon B. Johnson (D)	Johnson City	1955
Utah		
Elbert D. Thomas (D)	Salt Lake City	1951
Arthur V. Watkins (R)	Orem	1953
Vermont		
George D. Aiken (R)	Putney	1951
Ralph E. Flanders (R)	Springfield	1953
Virginia		
Harry F. Byrd (D)	Berryville	1953
A. Willis Robertson (R)	Richmond	1955

Senator	Address	Term Expires
Washington		
Warren G. Magnuson (D)	Port Blakely	1951
Harry P. Cain (R)	Tacoma	1953
West Virginia		
Harley M. Kilgore (D)	Beckley	1953
Matthew M. Neely (D)	Fairmont	1955
Wisconsin		
Alexander Wiley (R)	Chippewa Falls	1951
Joseph R. McCarthy (R)	Appleton	1953
Wyoming		
Joseph C. O'Mahoney (D)	Cheyenne	1953
Lester C. Hunt (D)	Cheyenne	1955

United States House of Representatives. Sam Rayburn is Speaker of the House of Representatives. Chaplain: Rev. James Shera
 Parliamentarian: Lewis Deschler
 Majority floor leader: John W. McCormack
 Majority whip: Percy Priest
 Minority floor leader: Joseph W. Martin, Jr.
 Minority whip: Charles A. Halleck
 Sergeant at arms: Joseph H. Callahan
 Chief clerk: Ralph R. Roberts

Democratic Representatives (262) are indicated by (D); Republican Representatives (171) by (R); American Labor Party (1) by (ALP); vacancies (1; 7th New York); total 435. Those marked * served in the 80th Congress. The numbers preceding the names indicate Congressional districts. All Representatives' terms expire Jan. 3, 1951.

Representatives Address

Alabama	
1. Frank W. Boykin * (D)	Mobile
2. George M. Grant * (D)	Troy
3. George W. Andrews * (D)	Union Springs
4. Sam Hobbs * (D)	Selma
5. Albert Rains * (D)	Gadsden
6. Edward deGraffenried (D)	Tuscaloosa
7. Carl Elliott (D)	Jasper
8. Robert E. Jones, Jr. * (D)	Scottsboro
9. Laurie C. Battle * (D)	Birmingham

Arizona	
1. John R. Murdock * (D)	Tempe
2. Harold A. Patten (D)	Tucson

Arkansas	
1. E. C. Gathings * (D)	West Memphis
2. Wilbur D. Mills * (D)	Kensett
3. James W. Trimble * (D)	Berryville
4. Boyd Tackett (D)	Nashville
5. Brooks Hays * (D)	Little Rock
6. W. F. Norrell * (D)	Monticello
7. Oren Harris * (D)	El Dorado

California	
1. Hubert B. Scudder (R)	Sebastopol
2. Clair Engle * (D)	Red Bluff
3. Leroy Johnson * (R)	Stockton
4. Frank R. Havenner * (D)	San Francisco
5. Richard J. Welch * (R)	San Francisco
6. George F. Miller * (D)	Alameda
7. John J. Allen, Jr. * (R)	Oakland
8. Jack Z. Anderson * (R)	San Juan Bautista
9. Cecil F. White (D)	Fresno
10. Thomas H. Werdel (R)	Bakersfield
11. Ernest K. Bramblett * (R)	Pacific Grove
12. Richard M. Nixon * (R)	Whittier
13. Norris Poulson * (R)	Los Angeles
14. Helen Gahagan Douglas * (D)	Los Angeles
15. Gordon L. McDonough * (R)	Los Angeles
16. Donald L. Jackson * (R)	Santa Monica
17. Cecil R. King * (D)	Los Angeles
18. Clyde Doyle (D)	Long Beach
19. Chet Holifield * (D)	Montebello
20. Carl Hinshaw * (R)	Pasadena
21. Harry R. Sheppard * (D)	Yucaipa
22. John Phillips * (R)	Banning
23. Clinton D. McKinnon (D)	San Diego

Colorado

1. John A. Carroll * (D)	Denver
2. William S. Hill * (R)	Fort Collins
3. John H. Marsalis (D)	Pueblo
4. Wayne N. Aspinall (D)	Palisade

Representatives Address

Connecticut	
1. A. A. Ribicoff (D)	Hartford
2. Chase G. Woodhouse (D)	Baltic (R.F.D.)
3. John A. McGuire (D)	Wallingford
4. John Davis Lodge * (R)	Westport
5. James T. Patterson * (R)	Naugatuck

At Large	
Antoni N. Sadlak * (R)	Rockville

Delaware	
At Large	
J. Caleb Boggs * (R)	Wilmington

Florida	
1. J. Hardin Peterson * (D)	Lakeland
2. Charles E. Bennett (D)	Jacksonville
3. Robert L. F. Sikes * (D)	Crestview
4. George A. Smathers * (D)	Miami
5. A. S. Herlong, Jr. (D)	Leesburg
6. Dwight L. Rogers * (D)	Fort Lauderdale

Georgia	
1. Prince H. Preston, Jr. * (D)	Statesboro
2. E. E. Cox * (D)	Camilla
3. Stephen Pace * (D)	Americus
4. A. Sidney Camp * (D)	Newnan
5. James C. Davis * (D)	Decatur
6. Carl Vinson * (D)	Milledgeville
7. Henderson Lanham * (D)	Rome
8. W. M. (Don) Wheeler * (D)	Alma
9. John S. Wood * (D)	Canton
10. Paul Brown * (D)	Elberton

Idaho	
1. Compton I. White (D)	Clark Fork
2. John Sanborn * (R)	Hagerman

Illinois	
1. William L. Dawson * (D)	Chicago
2. Barratt O'Hara (D)	Chicago
3. Neil J. Linehan (D)	Chicago
4. James V. Buckley (D)	Lansing
5. Martin Gorski * (D)	Chicago
6. Thomas J. O'Brien * (D)	Chicago
7. Adolph J. Sabath * (D)	Chicago
8. Thomas S. Gordon * (D)	Chicago
9. Sidney R. Yates (D)	Chicago
10. Richard W. Hoffman (R)	Berwyn
11. Chester A. Chesney (D)	Chicago
12. Edgar A. Jonas (R)	Chicago
13. Ralph E. Church * (R)	Evanston
14. Chauncey W. Reed * (R)	West Chicago
15. Noah M. Mason * (R)	Oglesby
16. Leo E. Allen * (R)	Galeana
17. Leslie C. Arends * (R)	Melvin
18. Harold H. Velde (R)	Pekin
19. Robert B. Chipenfield * (R)	Canton
20. Sid Simpson * (R)	Carrollton
21. Peter F. Mack, Jr. (D)	Carlinville
22. Rolla C. McMillen * (R)	Decatur
23. Edward H. Jenison * (R)	Paris
24. Charles W. Vusell * (R)	Salem
25. Melvin Price * (D)	East St. Louis
26. C. W. (Runt) Bishop * (R)	Carterville

Indiana	
1. Ray J. Madden * (D)	Gary
2. Charles A. Halleck * (R)	Rensselaer
3. Thurman C. Crook (D)	South Bend
4. Edward H. Kruse, Jr. (D)	Fort Wayne
5. John R. Walsh (D)	Anderson
6. Cecil M. Harden (R)	Covington
7. James E. Noland (D)	Bloomington
8. Winfield K. Denton (D)	Evansville
9. Earl Wilson * (R)	Bedford
10. Ralph Harvey * (R)	New Castle
11. Andrew Jacobs (D)	Indianapolis

Iowa	
1. Thomas E. Martin * (R)	Iowa City
2. Henry O. Talle * (R)	Decorah
3. H. R. Cross (R)	Waterloo
4. Karl M. LeCompte * (R)	Corydon
5. Paul Cunningham * (R)	Des Moines
6. James I. Dolliver * (R)	Fort Dodge
7. Ben F. Jensen * (R)	Exira
8. Charles B. Hoeven * (R)	Alton

Kansas	
1. Albert M. Cole * (R)	Holton
2. Errett P. Scrivner * (R)	Kansas City
3. Herbert A. Meyer * (R)	Independence
4. Edward H. Rees * (R)	Emporia
5. Clifford R. Hope * (R)	Garden City
6. Wint Smith * (R)	Mankato

Representatives	Address	Representatives	Address
Kentucky		Ellisnore	
1. Noble J. Gregory * (D).....	Maysfield	8. A. S. J. Carnahan (D).....	Ellisnore
2. John A. Whitaker * (D).....	Russellville	9. Clarence Cannon * (D).....	Ellisnore
3. Thurston Ballard Morton * (R).....	Glenview	10. Paul G. Jones * (D).....	Ellisnore
4. Frank L. Chelf * (D).....	Lebanon	11. John B. Sullivan (D).....	St. Louis
5. Brent Spence * (D).....	Fort Thomas	12. Raymond W. Karst (D).....	St. Louis
6. Thomas R. Underwood (D).....	Lexington	13. Frank M. Karsten * (D).....	St. Louis
7. Carl D. Perkins (D).....	Hindman	Montana	
8. Joe B. Bates * (D).....	Greenup	1. Mike Mansfield * (D).....	Missoula
9. James S. Golden (R).....	Pineville	2. Wesley A. D'Ewart * (R).....	Wilson
Louisiana		Nebraska	
1. F. Edward Hébert * (D).....	New Orleans	1. Carl T. Curtis * (R).....	Minden
2. Hale Boggs * (D).....	New Orleans	2. Eugene D. O'Sullivan (D).....	Omaha
3. Edwin E. Willis (D).....	St. Martinville	3. Karl Stellan * (R).....	Norfolk
4. Overton Brooks * (D).....	Shreveport	4. A. L. Miller * (R).....	Kimball
5. Otto E. Passman * (D).....	Mourne	Nevada	
6. James H. Morrison * (D).....	Hannumond	At Large	
7. Henry D. Laureate, Jr. * (D).....	Opelousas	Walter S. Baring (D).....	Reno
8. A. Leonard Allen * (D).....	Winfield	New Hampshire	
Maine		1. Chester E. Mellow * (R).....	Center Ossipee
1. Robert Hale * (R).....	Portland	2. Norris Cotton * (R).....	Lebanon
2. Charles P. Nelson (R).....	Augusta	New Jersey	
3. Frank Fellows * (R).....	Bangor	1. Charles A. Wolveston * (R).....	Mercantville
Maryland		2. T. Millet Hand * (R).....	Cape May City
1. Edward T. Miller * (R).....	Easton	3. James C. Auchincloss * (R).....	Rumson
2. William P. Bolton (D).....	Towson	4. Charles R. Hoaxall (D).....	Pennington
3. Edward A. Garmatz * (D).....	Baltimore	5. Charles A. Eaton * (R).....	Wilmington
4. George H. Fallon * (D).....	Baltimore	6. Clifford P. Case * (R).....	Wilmington
5. Lansdale G. Sasser * (D).....	Upper Marlboro	7. J. Patwell Thomas * (R).....	Wilmington
6. J. Glenn Beall * (R).....	Frostburg	8. Gordon Canfield * (R).....	Allendale
Massachusetts		9. Harry L. Towse * (R).....	Patterson
1. John W. Heselton * (R).....	Deerfield	10. Peter W. Rodino, Jr. (D).....	Rutherford
2. Foster Furcolo (D).....	Longmeadow	11. Hugh J. Addonizio (D).....	Newark
3. Philip J. Phillips * (D).....	Clinton	12. Robert W. Keen * (R).....	Newark
4. Harold D. Donohue * (D).....	Worcester	13. Mary T. Norton * (D).....	Livingston
5. Edith Nourse Rogers * (R).....	Lowell	14. Edward J. Hart * (D).....	Jersey City
6. George J. Bates * (R).....	Salem	New Mexico	
7. Thomas J. Lane * (D).....	Lawrence	At Large	
8. Angier L. Goodwin * (R).....	Melrose	Antonio M. Fernandez * (D).....	Santa Fe
9. Donald W. Nicholson * (R).....	Wareham	John E. Miles (D).....	Santa Fe
10. Christian A. Hertz * (D).....	Boston	New York	
11. John F. Kennedy * (D).....	Boston	1. W. Kingsland Macy * (R).....	Islip
12. John W. McCormack * (D).....	Boston	2. Leonard W. Hall * (R).....	Oyster Bay
13. Richard B. Wigglesworth * (R).....	Dorchester	3. Henry J. Latham * (R).....	Queens Village
14. Joseph W. Martin, Jr. * (R).....	North Attleboro	4. L. Gary Clemente (D).....	Ozone Park
Michigan		5. T. Vincent Quinn (D).....	Jackson Heights
1. George G. Sadowski * (D).....	Detroit	6. James J. Delaney (D).....	Long Island City
2. Earl C. Michener * (R).....	Adrian	7. ".....	".....
3. Paul W. Shafer * (R).....	Battle Creek	8. Joseph L. Pfeiffer * (D).....	Brooklyn
4. Clare E. Hoffman * (R).....	Allegan	9. Eugene J. Keogh * (D).....	Brooklyn
5. Gerald R. Ford, Jr. (R).....	East Grand Rapids	10. Andrew L. Somers * (D).....	Brooklyn
6. William W. Blackney * (R).....	Flint	11. James J. Heffernan * (D).....	Brooklyn
7. Jesse P. Wolcott * (R).....	Port Huron	12. John J. Rooney * (D).....	Brooklyn
8. Fred L. Crawford * (R).....	Saginaw	13. Donald L. O'Toole * (D).....	Brooklyn
9. Albert J. Engel * (R).....	Muskegon	14. Abraham J. Multer * (D).....	Brooklyn
10. Roy O. Woodruff * (R).....	Bay City	15. Emanuel Celler * (D).....	Brooklyn
11. Charles E. Potter * (R).....	Chicoysan	16. James J. Murphy (D).....	Brooklyn
12. John B. Bennett * (R).....	Ontonagon	17. Frederic R. Coudert, Jr. * (R).....	Staten Island
13. George D. O'Brien (D).....	Detroit	18. Vito Marcantonio * (AIP).....	New York City
14. Louis C. Rabaut (D).....	Grosse Pointe Park	19. Arthur G. Klein * (D).....	New York City
15. John D. Dingell * (D).....	Detroit	20. Sol Bloom * (D).....	New York City
16. John Lesinski * (D).....	Detroit	21. Jacob K. Javits * (R).....	New York City
17. George A. Dondero * (R).....	Royal Oak	22. Adam C. Powell, Jr. * (D).....	New York City
Minnesota		23. Walter A. Lynch * (D).....	New York City
1. August H. Andresen * (R).....	Red Wing	24. Isidore Dellinger (D).....	New York City
2. Joseph P. O'Hara * (R).....	Glencoe	25. Charles A. Buckley * (D).....	New York City
3. Roy W. Wier (D).....	Minneapolis	26. Christopher C. McGrath (D).....	New York City
4. Eugene J. McCarthy (D).....	St. Paul	27. Ralph W. Gwinn * (R).....	Bronxville
5. Walter H. Judd * (R).....	Minneapolis	28. Ralph A. Gamble * (R).....	Larchmont
6. Fred Marshall (D).....	Grove City (R.F.D.)	29. Katharine St. George * (R).....	Tuxedo Park
7. H. Carl Andersen * (R).....	Tyler	30. Jay LeFevre * (R).....	New Paltz
8. John A. Blatnik * (D).....	Chisholm	31. Bernard W. (Pat) Kearney * (R).....	Glensville
9. Harold C. Hagen * (R).....	Crookston	32. William T. Byrne * (D).....	Longmeadow
Mississippi		33. Dean P. Taylor * (R).....	Troy
1. John E. Rankin * (D).....	Tupelo	34. Clarence E. Kilburn * (R).....	Malone
2. Jamie L. Whitten * (D).....	Charleston	35. John C. Davies (D).....	Utica
3. William M. Whittington * (D).....	Greenwood	36. R. Walter Riehlman * (R).....	Tully
4. Thomas G. Abernethy * (D).....	Okolona	37. Edwin Arthur Hall * (R).....	Biughamton
5. Arthur Winslow * (D).....	Philadelphia	38. John Tubor * (R).....	Auburn
6. William M. Colmer * (D).....	Pascagoula	39. W. Sterling Cole * (R).....	Bath
7. John Bell Williams * (D).....	Raymond	40. Kenneth B. Keating * (R).....	Rochester
Missouri		41. James W. Wadsworth * (R).....	Geneseo
1. Clare Magee (D).....	Unionville	42. William L. Pfeiffer (R).....	Kennore
2. Morgan M. Moulder (D).....	Camdenton	43. Anthony F. Tauriello (D).....	Buffalo
3. Phil J. Welch (D).....	St. Joseph	44. Chester C. Gorski (D).....	Buffalo
4. Leonard Irving (D).....	Independence	45. Daniel A. Reed * (R).....	Dunkirk
5. Richard Bolling (D).....	Kansas City	Vacancy caused by the death of John J. Delaney (D), Nov. 18, 1948.	
6. George H. Christopher (D).....	Amoret		
7. Dewey Short * (R).....	Galena		

Representatives

Address

North Carolina

1. Herbert C. Bonner * (D)..... Washington
2. John H. Kerr * (D)..... Warrenton
3. Graham A. Barden * (D)..... New Bern
4. Harold D. Cooley * (D)..... Nashville
5. Thurmond Chatham * (D)..... Winston-Salem
6. Carl T. Durham * (D)..... Chapel Hill
7. F. Ertel Carlyle (D)..... Lumberton
8. Charles B. Deane * (D)..... Rockingham
9. Robert L. Doughton * (D)..... Laurel Springs
10. Hamilton C. Jones * (D)..... Charlotte
11. Alfred L. Bulwinkle * (D)..... Gastonia
12. Monroe M. Redden * (D)..... Hendersonville

North Dakota

At Large

- William Lemke * (R)..... Fargo
Usher L. Burdick (R)..... Williston

Ohio

1. Charles H. Elston * (R)..... Cincinnati
2. Earl T. Wagner (D)..... Cincinnati
3. Edward Brecken (D)..... Dayton
4. William M. McCulloch * (R)..... Piqua
5. Cliff Cleveland * (R)..... Bryan
6. James G. Polk (D)..... Highland
7. Clarence J. Brown * (R)..... Blanchester
8. Frederick C. Smith * (R)..... Marion
9. Thomas H. Burke (D)..... Toledo
10. Thomas A. Jenkins * (R)..... Ironton
11. Walter E. Brehm * (R)..... Millsport
12. John M. Vorys * (R)..... Columbus
13. Alvin F. Weichel * (R)..... Sandusky
14. Walter B. Ilubher * (D)..... Akron
15. Robert T. Secrest (D)..... Seucerville
16. John McSweeney (D)..... Wooster
17. J. Harry McGregor * (R)..... West Lafayette
18. Wayne L. Hays (D)..... Flushing
19. Michael J. Kirwan * (D)..... Youngstown
20. Michael A. Feighan * (D)..... Cleveland
21. Robert Crosser * (D)..... Cleveland
22. Frances P. Bolton * (R)..... Lyndhurst

At Large

- Stephen M. Young (D)..... Cleveland

Oklahoma

1. Dixie Gilmer (D)..... Tulsa
2. William G. Stigler * (D)..... Stigler
3. Carl Albert * (D)..... McAlester
4. Tom Steed (D)..... Shawnee
5. A. S. Mike Monroney * (D)..... Oklahoma City
6. Toby Morris * (D)..... Lawton
7. Victor Wickersham (D)..... Mangum
8. George H. Wilson (D)..... Enid

Oregon

1. Walter Norblad * (R)..... Astoria
2. Lowell Stockman * (R)..... Pendleton
3. Homer D. Angell * (R)..... Portland
4. Harris Ellsworth * (R)..... Roseburg

Pennsylvania

1. William A. Barrett (D)..... Philadelphia
2. William T. Grannahan (D)..... Philadelphia
3. Hardie Scott * (R)..... Philadelphia
4. Earl Chudoff (D)..... Philadelphia
5. William J. Green, Jr. (D)..... Philadelphia
6. Hugh D. Scott, Jr. * (R)..... Philadelphia
7. Benjamin F. James (R)..... Villanova
8. Franklin H. Lichtenwalter * (R)..... Allentown
9. Paul B. Dagne * (R)..... Downingtown
10. Harry P. O'Neill (D)..... Dunmore
11. Daniel J. Flood (D)..... Wilkes-Barre
12. Ivor D. Fonton * (R)..... Mahanoy City
13. George M. Rhodes (D)..... Reading
14. Wilson D. Gillette * (R)..... Towanda
15. Robert F. Rich * (R)..... Woolrich
16. Samuel K. McConnell, Jr. * (R)..... Penn Wynne
17. Richard M. Simpson * (R)..... Huntingdon
18. John C. Kunkel * (R)..... Harrisburg
19. Leon H. Gavin * (R)..... Oil City
20. Francis E. Walter * (D)..... Easton
21. James F. Lind (D)..... York
22. James E. Van Zandt * (R)..... Altoona
23. Anthony Cavalcante (D)..... Uniontown
24. Thomas E. Morgan * (D)..... Fredericktown
25. Louis E. Graham * (R)..... Beaver
26. Robert L. Coffey, Jr. (D)..... Johnstown
27. Augustine B. Kelley * (D)..... Greensburg
28. Carroll D. Kearns * (R)..... Farrell
29. Harry J. Davenport (D)..... Pittsburgh
30. Robert J. Corbett * (R)..... Bellevue
31. James G. Fulton * (R)..... Donnot (Pittsburgh)
32. Herman P. Eberharter * (D)..... Pittsburgh
33. Frank Buchanan * (D)..... McKeesport

Representatives

Address

Rhode Island

1. Aime J. Forand * (D)..... Cumberland
2. John E. Fogarty * (D)..... Harmony

South Carolina

1. L. Mendel Rivers * (D)..... Charleston
2. Hugo S. Sims (D)..... Orangeburg
3. James B. Hare (D)..... Saluda
4. Joseph R. Bryson * (D)..... Greenville
5. James P. Richards * (D)..... Lancaster
6. John L. McMillan * (D)..... Florence

South Dakota

1. Harold O. Loure (R)..... Watertown
2. Francis Case * (R)..... Custer

Tennessee

1. Dayton E. Phillips * (R)..... Elizabethton
2. John Jennings, Jr. * (R)..... Knoxville
3. James B. Frazier, Jr. (D)..... Chattanooga
4. Albert Gore * (D)..... Carthage
5. Joe L. Evins * (D)..... Smithville
6. J. Percy Priest * (D)..... Nashville
7. Pat Sutton (D)..... Lawrenceburg
8. Tom Murray * (D)..... Jackson
9. Jere Cooper * (D)..... Dyersburg
10. Clifford Davis * (D)..... Memphis

Texas

1. Wright Patman * (D)..... Texarkana
2. J. M. Combs * (D)..... Beaumont
3. Lindley Beckworth * (D)..... Gladewater (R.F.D.)
4. Sam Rayburn * (D)..... Bonham
5. J. Frank Wilson * (D)..... Dallas
6. Olin E. Teague * (D)..... College Station
7. Tom Pickett * (D)..... Palestine
8. Albert Thomas * (D)..... Houston
9. Clark W. Thompson * (D)..... Galveston
10. Homer Thornberry (D)..... Austin
11. W. R. Foage * (D)..... Waco
12. Wingate H. Lucas * (D)..... Grapevine
13. Ed Gossett * (D)..... Wichita Falls
14. John E. Lyle, Jr. * (D)..... Corpus Christi
15. Lloyd M. Bentsen, Jr. * (D)..... McAllen
16. Ken Regan * (D)..... Midland
17. Omar Burleson * (D)..... Anson
18. Eugene Worley * (D)..... Shamrock
19. George H. Mahon * (D)..... Colorado City
20. Paul J. Kilday * (D)..... San Antonio
21. O. C. Fisher * (D)..... San Angelo

Utah

1. Walter K. Granger * (D)..... Cedar City
2. Reva Beck Bosone (D)..... Salt Lake City

Vermont

At Large

- Charles A. Plumley * (R)..... Northfield

Virginia

1. Schuyler Otis Bland * (D)..... Newport News
2. Porter Hardy, Jr. * (D)..... Churchland
3. J. Vaughan Gary * (D)..... Richmond
4. Watkins M. Abbott * (D)..... Appomattox
5. Thomas B. Stanley * (D)..... Stanleytown
6. Clarence G. Burton * (D)..... Lynchburg
7. Burr P. Harrison * (D)..... Winchester
8. Howard W. Smith * (D)..... Alexandria
9. Tom B. Fugate (D)..... Ewing

Washington

1. Hugh B. Mitchell (D)..... Seattle
2. Henry M. Jackson * (D)..... Everett
3. Russell V. Mack * (R)..... Hoquiam
4. Hal Holmes * (R)..... Ellensburg
5. Walt Horan * (R)..... Wenatchee
6. Thor C. Tollefson * (R)..... Tacoma

West Virginia

1. Robert L. Ramsay (D)..... Follansbee
2. Harley O. Staggers (D)..... Keyser
3. Cleveland M. Bailey (D)..... Clarksburg
4. M. G. Burnside (D)..... Huntington
5. John Kee * (D)..... Bluefield
6. E. H. Hedrick * (D)..... Beckley

Wisconsin

1. Lawrence H. Smith * (R)..... Racine
2. Glenn R. Davis * (R)..... Waukesha
3. Gardner R. Withrow (R)..... La Crosse
4. Clement J. Zablocki (D)..... Milwaukee
5. Andrew J. Biemiller (D)..... Milwaukee
6. Frank B. Keefe * (R)..... Oshkosh
7. Reid F. Murray * (R)..... Ogdensburg
8. John W. Byrnes * (R)..... Green Bay
9. Merlin Hull * (R)..... Black River Falls
10. Alvin E. O'Konski * (R)..... Mercer

Representatives

Address

Wyoming	
<i>At Large</i>	
Frank A. Barrett * (R).....	Lusk
Alaska	
<i>Delegate</i>	
E. L. Bartlett * (R).....	Juneau
Hawaii	
<i>Delegate</i>	
Joseph R. Farrington * (R).....	Honolulu
Puerto Rico	
<i>Resident Commissioner</i>	
A. Ferns-Isern * * (R).....	San Juan

* Popular Democrat. Elected for a 4-year term.

CONGRESS OF INDUSTRIAL ORGANIZATIONS (CIO). A central national labor body committed to organization of workers into unions that will best fit the needs of the workers involved, without discrimination as to race, creed, or color, for the purpose of collective bargaining. Founded: November, 1935. Claimed membership: 6,500,000. President, Philip Murray; Secretary-Treasurer, James B. Carey. Headquarters: 718 Jackson Place NW, Washington 6, D.C. The 1948 National Convention was held at Portland, Oregon, on November 22-26.

CONNECTICUT. A New England State. Area: 5,004 sq. mi. Population (July 1, 1948): 2,011,000, compared with (1940 census) 1,709,242. Chief city: Hartford (capital), 166,267 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS, etc.

Legislation. A special session was called in February to reduce the state sales tax enacted at the regular 1947 session. Revenues under the act had greatly exceeded estimates, so the tax was reduced from the original 3 percent rate to 1 percent, to be increased to 2 percent on July 1, 1949. A brief session also was called in August.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$116,473,000; total expenditure, \$123,544,000.

Elections. Dewey, with 438,226 votes to 422,228 for Truman and 13,370 for Wallace, won the State's 8 electoral votes which went to Roosevelt in 1944. Democrats and Republicans each won 3 House seats, a gain of 3 for the Democrats. There was no Senatorial contest. In the race for Governor, Republican incumbent James C. Shannon lost to Chester Bowles, Democrat. Republican State Treasurer, Joseph A. Adorno was reelected, but Democrats won the other Statewide offices: Lieutenant Governor—William T. Carroll; Secretary of State—Mrs. Winifred McDonald; Comptroller—Raymond S. Thatcher.

Officers, 1948. Governor, James L. McConaughy (d. Mar. 7, 1948), succeeded by Lieut. Governor James C. Shannon. Secretary of State, Frances Burke Redick; Attorney General, William L. Hadden; State Treasurer, Joseph A. Adorno; State Comptroller, Fred R. Zeller.

CONSTRUCTION. This is the term applied to those activities which "are directed at providing and maintaining the greater part of the entire physical plant of the nation." It is second only to agriculture in magnitude and accounts for approximately 10 percent of the national income. The above definition of construction by the Bureau of the Census includes original construction and maintenance and repairs.

Estimates of construction activity in the United

States prepared by the Construction Division, Bureau of Foreign and Domestic Commerce, U.S. Department of Commerce, measure the value of construction work put in place. This includes the cost of materials installed and expenditures for labor and overhead. Separate estimates are prepared for new construction activity and for maintenance and repairs. The estimates do not include oil-well drilling, actual mining operations, and farm work which is an integral part of farm operations. Estimates for tourist courts and cabins, some playground and park construction, privately-owned water systems and some other minor items are not available and are not included.

Engineering News-Record reports the amount of "contracts let" for engineering construction in the continental United States. Public works reported include waterworks, sewerage, bridges, earthwork and waterways, streets, buildings, and unclassified. The items included in private construction are bridges, industrial buildings, commercial buildings, and unclassified. The reports include projects of the following minimum costs: waterworks, excavation, drainage, and irrigation, \$28,000; other public works, \$50,000; industrial buildings, \$68,000; other buildings, \$250,000.

The F. W. Dodge Corporation reports construction contracts awarded in the States east of the Rocky Mountains. The reports exclude farm construction and may not be complete for low-cost projects.

Total Construction. The dollar volume of new construction activity reached an all-time high in 1948 of about \$17,775 million. The dollar volume of maintenance and repairs is estimated at \$7,750 million, giving a total for the year of \$25,525 million. The corresponding figures for 1947 were: new construction activity, \$14,000 million; maintenance and repairs \$7,100 million; total construction activity \$21,100 million.

The 1948 private new construction was approximately \$13,750 million (\$10,900 million in 1947) and public new construction was about \$4,000 million.

TABLE 1 NEW CONSTRUCTION ACTIVITY
(Millions of Dollars)

Type of Construction	1947	1948	1948*
Total new construction.....	13,977	17,775	18,760
Total private.....	10,893	13,735	13,750
Residential (exclusive farm).....	5,260	7,100	6,500
Nonresidential building.....	5,631	6,600	4,060
Industrial.....	1,702	1,380	1,300
Warehouses, office & loft buildings.....	216	350	450
Stores, restaurant & garage.....	619	910	1,000
Other nonresidential building.....	694	960	1,300
Religious.....	118	230	325
Educational.....	164	245	325
Hospital and institutional.....	107	115	175
Social and recreational.....	205	215	275
Hotels and miscellaneous.....	205	155	200
Farm construction.....	450	500	450
Public utility.....	2,062	2,515	2,750
Railroad.....	318	350	350
Telephone and telegraph.....	510	675	725
Other public utility.....	1,234	1,510	1,875
Total public.....	3,084	4,040	5,000
Residential building.....	182	65	150
Nonresidential building.....	506	670	1,375
Educational.....	275	525	700
Hospital and institutional.....	81	200	375
Other nonresidential building.....	149	245	300
Military and naval.....	204	150	175
Highway.....	1,233	1,550	1,700
Sewer and water.....	331	450	550
Misc. public service enterprises.....	117	105	125
Conservation and development.....	306	600	750
All other public.....	116	150	175

* Joint estimates of the U.S. Department of Commerce and the U.S. Department of Labor.

million (\$3,100 million in 1947). Private new construction constitutes between 75 percent and 80 percent of total new construction. Private new con-

struction has been equal to or greater than public new construction, and in some years almost four times as much, since 1915, except in 1932, 1933, 1934, 1942, 1943, and 1944. These will be recognized as the depression and war years.

About a third of the increase in dollar volume of new construction activity from 1947 to 1948 may be attributed to the increase in costs. The balance is due to the increase in physical volume.

The 1948 total of private residential construction was approximately \$7,100 million, an increase of about 35 percent over the 1947 amount of \$5,260 million. Private residential construction constituted a little more than 50 percent of the total private new construction activity in 1948 as compared to a little less than 50 percent in 1947.

Highway construction was the largest single item (38 percent) of public new construction in 1948 and held the same relative place in 1947 (40 per-

transient crews, and subject to the vagaries of the weather. If a building is enclosed before cold weather, operations may continue. Highways, dams, and similar structures are built in the open where weather conditions are important. The industry is making some progress in lengthening the construction season. The seasonal patterns of certain types of construction are indicated by the indexes in Table 3.

New Housing. Private residential construction has comprised an average of 41 percent of total private new construction from 1915 through 1948. The lowest amount percentagewise was 25 percent in 1945 and the highest was 54 percent in 1924, 1925, 1939, and 1948. It is usually the largest single classification under private new construction.

The number of new permanent dwelling units put under construction in the first 10 months of 1948 was 803,000 compared to 710,500 for the

TABLE 2—TOTAL NEW CONSTRUCTION ACTIVITY
Regional and Quarterly Distribution
[Department of Commerce] [Millions of dollars]

Census Region	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
	1948	1947	1948	1947	1948	1947	1948	1947
New England.....	164.2	122.4	203.8	153.8	204.7	203.1	(Not available)	222.2
Middle Atlantic.....	529.4	408.8	675.3	478.9	851.6	630.3	avail-	687.0
East North Central.....	635.5	480.1	795.8	586.7	1,025.6	802.4	able)	837.2
West North Central.....	259.7	204.2	387.0	276.7	516.5	400.1		364.6
South Atlantic.....	446.6	343.2	597.4	418.7	671.5	531.4		559.9
Pac. South Central.....	150.9	132.2	201.7	164.3	247.3	210.4		210.4
West South Central.....	394.0	284.7	510.9	366.4	565.7	457.1		477.4
Mountain.....	125.1	101.5	190.7	132.9	230.1	169.4		170.5
Pacific.....	626.6	477.9	825.4	543.6	924.0	646.8		719.8

cent), the respective amounts being \$1,550 million and \$1,230 million.

Employment on construction contracts reached a postwar peak of 2¼ million workers in August, 1948. The number of workers in September, October, and November averaged about 110,000 greater than the number in the corresponding months of 1947. The maximum number of workers in 1947 was 2.1 million in September.

Geographical Distribution. The East North Central Census region led in total new construction activity

same period of 1947. The total units for 1948 will probably be between 900,000 and 925,000. The total number for 1947 was 855,000. The number of units completed in 1947 was 835,000. The number of publicly owned units started in 1948 constitutes less than 2 percent of the total number of starts. The number of units put under construction in 1948 is exceeded only by the 937,000 units started in 1925.

Approximately 40,000 prefabricated units were erected in 1948, less than 5 percent of the total.

TABLE 3—SEASONAL INDEXES FOR SELECTED TYPES OF NEW CONSTRUCTION ACTIVITY
[U.S. Department of Commerce] [Average for year = 100]

Type of Construction	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Private:												
Nonresidential (excl. farm).....	87	73	76	89	102	111	116	117	114	110	107	98
Industrial buildings.....	90	90	87	86	92	93	103	108	113	113	112	104
Warehouse, office & loft buildings.....	95	88	89	90	98	98	108	111	109	107	108	104
Stores, restaurants, garages.....	77	75	84	87	104	122	124	116	112	107	104	88
Other nonresidential buildings.....	94	87	92	92	95	107	104	105	116	109	100	99
Farm construction.....	31	35	55	87	121	149	192	196	154	95	53	32
Public Utility.....	85	83	91	97	102	107	108	111	109	109	104	94
Public:												
Nonresidential bldg. (excl. indus.).	81	71	91	97	100	110	121	121	115	111	98	84
Highway.....	55	53	60	81	106	126	139	142	138	130	101	69
Sewer and water.....	84	87	93	96	104	112	123	113	109	106	89	84

during the first three quarters of 1948 with approximately \$2,500 million, followed by the Pacific region with \$2,400 million, and the Middle Atlantic region with about \$2,100 million. During the same period California led all States with about \$1,860 million followed by Texas, \$980 million and New York, \$938 million. These regions and States held the same relative standing for total new construction activity in 1947. Table 2 shows the regional and quarterly distribution of total new construction activity for the first three quarters of 1948 and for the four quarters of 1947.

Seasonal Variation. New construction activity follows a fairly distinct seasonal pattern being at a low ebb during the winter months and reaching peak production during the late summer and early fall. This seasonal pattern results from the nature of the operations. The work is done at the site, by

About 80 firms are manufacturing prefabs of which 5 make steel dwellings. Some of the plants are not operating at full capacity. Merchandising and financing are the important problems rather than consumers' acceptance. One company introduced a porcelain-enamel steel house during the year.

Costs. Construction costs continued to rise throughout 1948 and will average about 10 percent above 1947 costs. Large variation in costs exists between various localities resulting from the difference in demand and the productivity of labor. A seller's market still exists. Cost trends are depicted by various indexes. Some are general in nature while others indicate the trend of a particular type of structure. Some are local in character while others are more or less national. The base year also varies.

Engineering News-Record reports two cost in-

dexes. The E.N.-R. construction cost-index is based on the cost of structural steel, cement, lumber, and common labor rates at selected points and weighted in proportion to the importance of each in heavy construction. The E.N.-R. building cost index is based on the same material items as given above, and skilled labor rates.

Court Decisions. The U.S. Supreme Court rendered two decisions of importance to the construction industry. The decision of the Court in the Federal Trade Commission vs. the Cement Institute case upheld the FTC and affirmed that a multiple basing point delivered price system as used by the

TABLE 4. COST INDEXES
(Engineering News-Record) (1913=100)

Month	Construction Cost		Building Cost	
	1948	1947	1948	1947
January	441.65	381.68	353.58	289.05
February	442.67	390.76	355.19	297.65
March	443.60	391.95	351.22	298.81
April	443.64	396.09	351.56	300.81
May	444.86	396.49	353.93	299.61
June	455.80	403.29	359.26	303.14
July	461.83	406.32	312.42	301.87
August	477.11	415.00	355.35	313.03
September	478.49	417.81	356.70	317.08
October	480.21	424.41	357.97	320.84
November	478.25	429.30	355.86	322.27
December	477.60	432.30	355.55	325.27

cement industry results in (1) restraint of competition and (2) excessive price discrimination, which are prohibited by the FTC Act and the Clayton Act respectively. This court ruling affects cement, steel, and other products of common use in construction. This decision may well result in a group of regional or local monopolies and will increase the cost of some products. Contractors will experience some difficulty in arriving at a price to use in bidding. The determination of freight rates over a wide area is not a simple matter.

The second decision resulting from the case of New York longshoremen against stevedoring companies redefines overtime and is popularly referred to as "overtime-on-overtime." The interpretation or redefinition of overtime pay is applicable in the construction industry and has caused considerable confusion in the preparation of payrolls. Employers and employees have had a long-time understanding that overtime pay at $1\frac{1}{2}$ or 2 times the regular rate applied to hours worked outside the regular shift of 8 a.m. to 5 p.m., Monday through Friday. The court ruled that such pay, unless for work in excess of 40 hours, was in reality premium pay for undesirable hours and must be considered in determining the base rate from which overtime pay is computed. The application of this decision is variable in different cases depending somewhat upon contract agreements or company policy. In some cases its application will result in a varying "regular rate" from which overtime will be computed. Any given employee's "regular rate" may be \$1 per hour one week, \$1.07 per hour another week, and still a different amount during a succeeding week. The amount added to the total weekly pay of an employee is variable, ranging from nothing to \$5, or \$10, or more. This court ruling adds to the labor and cost of preparing payrolls and will cause some difficulty in preparing estimates for contract bidding purposes. Shifting the work week to Monday through Sunday may be helpful in some cases.

Construction Equipment. The Road Show, sponsored by the American Road Builders' Association, was held during the summer for the first time since the war. All forms of construction equipment were exhibited and the variety of machines on display is indicative of the effort being made to mechanize all possible operations. Machines displayed ranged

from small power tools and 150 lb. generators to 30 cu. yd. power shovels and 750 h.p. bulldozers. One machine can dig and load 750 cu. yd. per hour.

The trend in design is to increase size, power, mobility, operator's comfort, power control, and reduce maintenance costs. More manufacturers are introducing models of motor scraper units and rubber-tired bulldozers. The application of large-size, low pressure tires to construction equipment continues to gain favor. Diesel power continues in favor in the heavier machines.

Large capacity portable aggregate plants are available to meet strict specifications for aggregates. These units are becoming economical as hauling costs rise. Truck haul of aggregate is now about 6¢ to 8¢ per ton mile.

Traction loaders are being used in many operations to reduce hand labor. Powered rubber-tired buhgies are replacing the wheel barrows and 2-man concrete buhgies. One pass and stabilizers are now available for the construction of relatively low cost roads.

Needs. The Joint Congressional Committee on Housing recommended 1,250,000 new homes a year for 12 years. This recommendation was based on figures gathered by the committee, some of which are: F. W. Dodge Corporation, 820,000 per year for 10 years; National Housing Agency, 1,260,000 per year; American Federation of Labor, 1,560,000 per year; Charles Adams, 1,860,000 per year for 10 years; Twentieth Century Fund, 1,133,000 per year for 15 years; Producers Council, 900,000 to 1,000,000 per year for 3 or 4 years; and Association of Real Estate Boards, 300,000 per year for 10 years. *The Construction News* indicates 900,000 new units per year for at least 8 years will be required before the situation becomes normal.

Estimates prepared by State Highway Commissions indicate the need for vast sums to raise the several systems to acceptable standards. The departments of some States are barely able to maintain the highways in serviceable condition due to the lack of funds, lack of trained personnel, and the increase in both traffic and magnitude of loads.

Indiana estimates it will require \$67.5 million per year for 11 years (1950-1960) for necessary improvements to raise the system to tolerable standards. Michigan needs \$179 million per year for 12 years to correct present deficiencies and for replacement and maintenance. Nebraska highway needs are placed at \$64 million per year for 10 years and the California highway needs are placed at 210 million in 1949, increasing to \$240 million in 1959. All the above figures are based on carefully prepared engineering analyses.

Outlook, 1949. The outlook for 1949 is bright. The volume of new construction activity may amount to \$18,750 million. The number of housing units to be placed under construction will probably be a little smaller than in 1948. Construction costs may be expected to increase about 5 percent above the 1948 level.

Source of Data. *Business Week*; *Construction and Construction Materials*, U.S. Department of Commerce; *Construction*, U.S. Department of Labor; *Engineering News-Record*; *The Construction News*.
—F. W. STUBBS, JR.

CONSUMERS' COOPERATIVES. Again, in 1947, the consumers' cooperatives in the United States reached all-time peaks in membership and business. For the first time the annual aggregate retail distributive business of these associations exceeded 1,000 million dollars.

Among the retail petroleum associations, slightly less than 3 percent showed losses on the year's business and, of those showing earnings, in well over half were the earnings greater than in 1946. Although the retail store associations had a rate of increase in volume of business which exceeded any previous year for which there is record, their operating results were less satisfactory than in 1946. Among those reporting, over a fourth (28.5 percent) sustained a loss on the year's operations, as compared with 16.1 percent in 1946; among those which were "in the black," over half had smaller earnings than in 1946. For both types of associations, earnings included patronage refunds on purchases made from wholesale cooperatives, and for some retail associations, such refunds were all that kept them on the earnings side of the ledger. Difficult operations were reflected in an unusually large number of dissolutions of associations in 1947 and early 1948.

More than 4,200 retail associations were affiliated to regional wholesales at the end of 1947, and 24 of these wholesales were, in turn, members of National Cooperatives, Inc.

Among the commercial federations, the regional and district wholesales had a distributive and service business of nearly 261 million dollars (as compared with 222 millions in 1946). Earnings of the reporting regional wholesales, which exceeded 15 million dollars, were nearly 30 percent above those of 1946; in 1946, however, earnings had been nearly 88 percent above those of 1945. Combined earnings for the group were reduced considerably by the losses of a few associations. As among the retail associations, some of the wholesales found the going hard in 1947. This was particularly true of the three which deal mainly in groceries; two of these sustained a loss on the year's business. In two other wholesales with grocery departments, those departments ended the year with an operating loss.

Patronage refunds to the affiliated member associations by the wholesales totaled nearly 12¼ million dollars—or nearly half again as much as in 1946.

The year 1947 saw another sizable increase in value of goods produced by the wholesales and productive federations, reaching nearly 128½ million dollars as compared with 95½ millions in the previous year. Over 60 percent of this product came from plants operated by the regional wholesales, and somewhat over a third came from those of the productive federations.

In many cases, the interest in cooperatives manifested during the past year by organized labor has died without anything concrete emerging. In numerous other places, however, new cooperatives have been formed, and some existing associations report an influx (large or small) of unionists as new members or patrons. One of the results has been a new "warehouse" type of retail store, handling only a few hundred major food items needed by a household, compared with the thousand or more ordinarily carried in stock by grocery stores. As the goods in these warehouses are displayed in the boxes in which they are shipped, the processes of shelving and pricing are eliminated. The results are said to be quick turnover of inventory, lower labor and other overhead costs, and greater savings for the patrons.

Important in the domestic scene in 1948 was the holding of the Sixteenth Biennial Congress of the Cooperative League of the U.S.A. in Minneapolis, in November. This was a working congress dealing with the various aspects and problems of the cooperative movement. Special sessions consid-

ered finance, taxation, housing, petroleum, retail services, public relations, and labor and cooperatives. Their conclusions were reported to the general sessions, in most cases with recommendations for specific action.

The annual convention of the Cooperative Health Federation of America preceded the Congress of the League.

In the international field, the outstanding event was the Seventeenth Congress of the International Cooperative Alliance (founded in 1895), at Prague, Czechoslovakia, in September. Cooperatives and nationalization, and the expansion of the cooperative movement in the economic and business field, were the two main themes of the Congress, both evoking considerable discussion and widely differing points of view. The resolution passed by the Congress on the former subject expressed the belief that, although nationalization is desirable in certain basic industries, cooperation is preferable to nationalization in all industries which cater to individuals or in which individual preferences and tastes are important. The Congress also reiterated the historic stand of the Alliance, asserting its political and religious neutrality and its independence of any ties with organizations in either field.

—FLORENCE E. PARKER

MEMBERSHIP AND BUSINESS OF CONSUMERS' COOPERATIVES, 1947 (Last figures available)

Type of Association	Estimated Totals		
	No of Associations	No of Members (1,000's)	Amount of Business (\$1,000)
Retail distributive	3,985	2,208	1,050,300
Stores, buying clubs	2,500	1,250	715,000
Petroleum	1,400	925	320,000
Other	85	33	15,300
Service	793	357	25,503
Rooms, meals	200	25	6,100
Housing	125	10	3,000
Medical, medical care:			
On contract	60	100	1,800
Own facilities	75	65	6,000
Burial:			
Complete funeral	36	30	355
Caskets only	3	1	6
On contract	4	2	42
Cold storage	180	107	7,000
Other	110	17	1,200
Electric light, power	1,029	2,031	113,704
Telephone (mutual and coop)	33,000	675	10,000
Credit unions	9,040	3,340	455,834
Insurance	2,000	11,200	207,000
Federations			
Wholesales:			
Interregional	1	24	10,581
Regional	23	4,220	255,216
District	11	171	5,684
Service	18	1,405	1,782
Productive	16	386	53,741

^a Gross income ^b Number of patrons ^c Number of policy holders ^d Premium income ^e Total number of member associations ^f Includes wholesale distributive, retail distributive, and service business

COPPER. For the third postwar year, consumption of primary copper by domestic industry in 1948 exceeded high level consumption prewar years by about 100 percent, reaching approximately 1,230,000 net tons (1947: 1,278,400 tons). Heavy postwar consumption of copper has been caused by pent-up consumer and industrial demand after the war, and the heavy use of certain brass mill products to substitute for scarce steel products.

Domestic mine production of copper was at the high level of approximately 828,000 tons in 1948, the additional tonnage required by domestic consumption coming from imports, largely from Chile. (1947 production, revised: 847,560 tons.) About 50,000 tons of copper production was lost by a

strike of railroad workers at the Bingham, Utah open-pit mine of Kennecott Copper Corp., that was still unsettled at year end.

Domestic consumers of copper were hit hard by a shortage throughout the year that grew particularly acute in the fall and winter. The principal cause of the shortage was the heavy demand by domestic industry, and the strike in the last quarter. Other contributing causes were the strategic stock-piling program of the government which was accelerated in the last half of the year, and the granting of dollar credits to the nations of western Europe for purchases of copper and mill products under the Economic Cooperation Administration program.

Major producers distributed available tonnages to domestic and foreign consumers with care so as to prevent price increases during the year. An increase of 2¢ per lb. in August brought the price to 23.50¢ delivered Connecticut Valley, with a premium of 3/8¢ per lb. for Midwest delivery. Demand that could not be satisfied grew so heavy in the last half of the year that premium prices were paid as high as 28¢ per lb. by many consumers, largely for foreign metal. Consumers also entered the scrap market to buy copper for conversion by custom smelters on a toll basis. This added buying pressure bid up the price of scrap copper as high as 22¢ per lb., which was reflected in high prices for secondary ingot.

Heavy wartime construction of fabricating plants in the Midwest has wrought an important change in the geographical center of consumption, which has moved westward from the eastern seaboard. The refining plants have been heavily centered in the eastern seaports to serve the market, where they are fed by imported concentrates and domestic concentrates from western mining areas. Construction of additional refining capacity in the West and Midwest will cut down on freight costs involved in consumption by plants in that area. Kennecott Copper Corp. began the construction of a refinery at Garfield, Utah, to handle the output of its Bingham, Utah, mine.

Arizona was again the leading mine producing state and its production together with that of Utah constituted nearly three-fourths of total domestic production. Other leading producing states were New Mexico, Montana, and Nevada.

Imports in the form of ore, matte, crude and refined copper totaled 496,320 tons in 1948 (1947 imports: 407,937 tons). Of this amount, 258,156 tons came from Chile, more than 80 percent of it in refined form. Mexico, Canada, Peru and other Western Hemisphere nations sent the balance, except small tonnages from Rhodesia, Yugoslavia, South Africa, and Cyprus. The tariff on copper imports has been suspended until Mar. 31, 1949. Copper exports of the United States in the form of ingots, bars, etc. reached 142,598 tons (1947 exports: 148,399 tons). The United Kingdom took 50 percent of U.S. exports of refined copper.

The principal copper-producing countries of the world, excluding Russia for which statistics are not available, based on mine production in 1947 were as follows (net tons): United States, 847,560; Chile, 470,318; Canada, 227,209; Rhodesia, 218,222; Belgian Congo, 166,271; and Mexico, 72,675. The world total was estimated at 2,280,000 net tons.

—JOHN ANTHONY

COPYRIGHT, U.S. The three most significant events in copyright in 1948 were the increase in the fees charged for the registration of copyrights and other services performed by the U.S. Copyright Office,

the increase in the appropriation voted by Congress for the maintenance of that Office, and the improvement in the *Catalog of Copyright Entries*.

The fees charged the public for the various services performed by the Copyright Office have remained extremely low for many years; in a number of instances below the schedule of a century and a half ago. They were so far out of line with the pay scale for federal employees that it was possible to secure for \$1 an hour the making of bibliographical and other Copyright Office searches costing the government \$3 an hour. This situation led the Appropriations Committee of the House of Representatives to refer to the Copyright Office fees as "woefully inadequate to cover present day costs" and the Congress to increase almost all the Copyright Office fees effective May 27, 1948. The most significant changes were the increase of the fee for the registration of each original copyright to \$4 (the charge for registering prints and labels remains at \$6) and of that for making searches to \$3 per hour.

To compensate the users of the Copyright Office for the higher fees they were to pay, the Congress increased the appropriation of the Copyright Office so that it could give the public better service. The new appropriation did not become effective until July 1st and it takes time to secure and train new employees, so the public has not yet received the full benefit of the increase appropriation. However, the public has already received better and prompter service and it is hoped that the improvement will be even more marked in the year 1949.

The *Catalog of Copyright Entries* changed in 1947 its form, contents, price, and frequency of publication. Its size has been changed to quarto so as to facilitate the use of larger and more readable type. The form and content of the entries has been altered to make them more useful and readily understandable. All parts of the catalog are now published semi-annually. The Catalog can be purchased as a whole or any one of its eleven separate parts can be bought separately (each covering a different class of copyrighted material) either from the Superintendent of Documents, or the Copyright Office. The price of the entire Catalog for one year is \$20.

The number of claims to copyrights registered in fiscal year 1948 was the largest ever received in the Copyright Office, numbering 238,121. Of this number 51,546 were for books (of which 9,786 were monographs), 72,339 for musical compositions, 59,699 for periodicals, 1,456 for maps, and 1,631 for motion pictures. Of the 573,698 registrations made in the fiscal five-year period 1915-1920, 62,100, or 10.8 percent were renewed in the fiscal years 1943 to 1948.

—SAM B. WARNER

CORN (Maize). World corn output for 1948 was forecast at the record figure of 5,900 million bushels, on the basis of information available in the Office of Foreign Agricultural Relations, U.S. Department of Agriculture. At that level the crop would be 25 percent above the 1935-39 average of 4,800 million bushels. The increase was accounted for by the record outturn in the United States, and a slight gain in Africa. All other continental totals were estimated below average. Production yields of the continents for 1948 were estimated (in bushels) as follows: North America 3,753 million, Europe 671 million, U.S.S.R. 125 million (in 1947), Asia 630 million, Africa 272 million, South America 464 million, Oceania 5 million.

United States. The 1948 corn crop of the United States, according to the U.S. Department of Agriculture Crop Report of December 1948, amounted to a record of 3,651 million bushels, compared with 2,384 million bushels in 1947. Yields of the principal producing States in 1948 (in bushels) were: Iowa 666,730,000, Illinois 549,793,000, Indiana 279,780,000, Minnesota 272,055,000, Nebraska 252,488,000, Ohio 215,924,000, Missouri 201,110,000, South Dakota 181,472,000, Wisconsin 118,252,000, Kentucky 100,040,000, Kansas 81,304,000, Tennessee 74,415,000, North Carolina 69,006,000, Michigan 67,119,000, Pennsylvania 65,379,000, Alabama 58,824,000, Mississippi 53,544,00, Virginia 50,525,000, Georgia 49,182,000, Texas 44,698,000.

CORSICA. A French island department in the western Mediterranean, 100 miles southeast of Nice. Area, 3,367 square miles. Population (March, 1946), 267,971. Chief towns: Ajaccio (capital), 38,000 inhabitants; Bastia, 52,208.

COSTA RICA. A Republic of Central America. The interior is mountainous with a small highland plateau, hemmed by volcanic cones and cordillera ranges. The coastal plains border the Pacific and the Caribbean oceans. Along the coast, the climate is hot and humid, while cool and refreshing climates prevail in the highland plateaus.

Area and Population. Area: 19,656 square miles. Population (census, Dec. 31, 1945): 746,535 (1948 est. 835,000), of whom about 80 percent are of European descent; 15 percent mestizos; 4 percent Negro; one percent Indian. Chief cities: San José (capital), 86,952 inhabitants in 1948; Cartago, Heredia, and Alajuela. Limón is the principal port.

Education and Religion. The Constitution guarantees freedom of religion, but Roman Catholicism is the official religion. Over 80 percent of the population is literate under a program of free and compulsory education. In 1947, there were nearly 900 primary public schools with 83,000 students; 5 secondary schools with more than 4,000 students. The national university of Costa Rica is a well-known institution of higher learning in Central America.

Production. Agriculture is the leading occupation, with 1,040,000 acres under cultivation. Principal export crops are coffee, bananas and cocoa, which usually amount to 80 percent of the total value of exports. Coffee production in 1947 was estimated at 307,000 bags of 60 kilos. The value of exports of agricultural products in 1946 follows: coffee \$6,528,569; bananas, \$4,388,357; cocoa, \$792,848. There are some small industries of consumer goods as well as dairy-farming and cattle-raising (401,104 head in 1945). Although forest covers about 80 percent of the total area of the country, the timber industry is not well developed (10,246 metric tons exported in 1946).

Foreign Trade. Total exports in 1947 amounted to \$14,357,272; imports to \$33,041,135. With such an unfavorable balance of trade the economy of the country was seriously affected. Coffee exports (1947) totaled 302,937 bags, 79 percent of which went to the United States. Banana exports, January-July, 1947, consisted of 3,851,627 stems (1946 total export 5,500,000 stems). Cocoa exports (1946) totaled 8,751,000 lb. Lumber exports for the period January-August, 1947, totaled \$745,000, or about twice that of 1946. Principal buyers are the United States, Canada, Switzerland, Colombia, and Panama. Principal suppliers are the

United States, Mexico, Nicaragua, Argentina, and Chile.

Finance. The budget estimate for 1947 was \$17,000,000, both for revenues and expenditures. On Jan. 1, 1947, the public debt amounted to 256,406,852 colones (one colon equals U.S.\$0.1764; 1948). The foreign debt is distributed among French, British, and American bondholders. The internal debt is approximately 77,000,000 colones. Currency in circulation at the end of 1947 totaled 82.6 million colones; bank deposits, 105 million colones; gold reserves, \$2,000,000. The cost of living index in August, 1947, was 226 (1936 = 100).

Transportation. Costa Rica has a total of some 600 miles of narrow-gauge railroad, of which 301 miles are main lines. The United Fruit Company maintains approximately 190 miles of the railroad. There are about 1,017 miles of highway (1947), of which 921 miles are hard surfaced, the remainder improved. Local air service is supplied by TACA, LACSA, and TAN. International service is supplied by the Pan American Airways and TACA. There are 1,904 miles of telegraphic lines and 350 miles of telephone line; the first are government owned, the latter private.

Government. Under the Constitution of 1871 (amended 1943), Costa Rica is a centralized republic of 7 provinces. Legislative power rests in a unicameral Congress of 45 members (elected for 4 years). The President, who serves a 4-year term, is assisted by a Cabinet of 9 members. In May, 1948, a revolutionary Junta headed by José Figueres assumed power. (See below EVENTS.)

Events, 1948. A peaceful and traditionally democratic country, Costa Rica had her share of violence in 1948.

Presidential Elections. In preparation for the elections to be held on February 8, the three political parties opened the year stressing their different ideologies. Rafael Calderón Guardia was the candidate of the liberally inclined Partido Nacional Republicano; Otilio Ulate Blanco, nominated by the Partido Unión Nacional, represented the landed classes, and Manuel Mora Valverde was nominated by the pro-Communist Van-Guardia Popular, a small party.

Early election returns gave a majority to Ulate, but this was immediately contested by the other parties, who claimed fraud. The case was referred to an electoral tribunal which decided in favor of Ulate on February 28. The decision was close, with the President of the Tribunal stating that Congress should make the decision. After considerable bickering, Congress voted 20 to 19 to annul the elections, and announced that a provisional government would be appointed until a new election could be held.

Preludes to Civil War. After the decision of Congress was published, the government took measures to stop revolts, the first step being a house search by police at the home of Dr. Valverde, one of Ulate's backers. Entrance denied, an exchange of shots followed in which two policemen were killed and Dr. Valverde was fatally wounded. Out of this incident serious tension arose; Ulate and some of his followers were placed under arrest and accused of being responsible for the incident, since they had resisted the government order.

The Figueres Uprising. Early in March, a group headed by Col. José Figueres took possession of three planes of the TACA line, and smuggled arms and ammunition from Guatemala. A veritable civil war broke out and the rebels bombed the presidential palace from the air. President Picado, whose term did not expire until May 8, asked the diplo-

matic corps to intervene; they accepted and formed a committee headed by the Papal Nuncio and the Ambassadors from the United States, Mexico, the Dominican Republic, Panama, and Chile. Figueres appointed an emissary to work out an agreement, under which it was understood that Ulate's election would be recognized and a coalition government formed. However, on April 28, Figueres' troops entered San José in a triumphal march and, instead of delivering the government to Ulate, formed a revolutionary Junta controlled by himself. He then announced that a Constituent Assembly would be convoked to draw up a new constitution.

De Facto Government. Figueres is ruling Costa Rica and the political situation is confused. The Conservatives are disturbed by the socialistic trends of the present administration, while the democratic group is dissatisfied with the dictatorial, strong-arm methods used to repress political opposition. On the international front, in spite of internal unrest, Costa Rica attended the Ninth Inter-American Conference of American States held in Bogotá in April, and became signatory to the Charter of the Americas.

Invasion and the Inter-American System. On December 10, the country was invaded by a revolutionary group headed by defeated candidate Rafael Calderón Guardia. The rebel troops came from Nicaragua, and Figueres' government immediately referred the case to the Organization of American States, which immediately intervened and appointed an investigation commission, composed of delegates from Mexico, Paraguay, Brazil, Colombia and the United States. The commission went to Costa Rica and Nicaragua and conducted several hearings, with the following results: that the movement was organized in Nicaraguan territory, and that the government of that country had taken no preventive measures against it until after December 10; that the rebel troops were formed mostly by citizens of Costa Rica and some Nicaraguans, but that there was no evidence of participation by Nicaraguan armed forces; and that the government of Costa Rica, before the invasion, had given moral and material support to the so-called Caribbean Legion, whose objective, among others, is the overthrow of the Nicaraguan government. The Council of the Organization of American States took the following steps: A request to the governments of Nicaragua and Costa Rica to refrain from any hostile acts; a statement to the Nicaraguan government that they should have taken steps to prevent the invasion, and to the Costa Rican government that they should in the future block activities of revolutionary groups against neighboring governments; and, in general, a request to both countries to obey the principles of non-intervention that they had formally accepted. —MIGUEL JORNÁN

COTTON. The 1948 output of cotton lint in the United States (based on information received by the United States Crop Reporting Board, as of Dec. 1, 1948) was estimated to total 14,937,000 bales (of 500 lb.), compared with 11,857,000 bales in 1947 and the 10-year average of 12,014,000 bales. The record crop was 18,946,000 bales produced in 1937. Yields (in 500-lb. bales) for 1948 of the chief producing States were: Texas 3,200,000, Mississippi 2,350,000, Arkansas 2,000,000, Alabama 1,200,000, California 960,000, South Carolina 890,000, Louisiana 760,000, Georgia 760,000, North Carolina 680,000, Tennessee 650,000, Missouri 505,000, Oklahoma 370,000, Arizona 320,000, and New Mexico 240,000.

Cottonseed production for 1948, if the ratio of

lint to cottonseed is the same as the average for the past 5 years, would amount to 6,036,000 tons, compared with 4,681,000 tons in 1947 and the 10-year average of 4,947,000 tons. The chief producing States, with production in tons, follow: Texas 1,417,000, Mississippi 1,000,000, Arkansas 490,000, Alabama 341,000, California 295,000, Georgia 253,000, South Carolina 253,000, Louisiana 201,000, Tennessee 197,000, North Carolina 177,000, Oklahoma 137,000, Missouri 132,000.

World Cotton Output. The Office of Foreign Agricultural Relations of the U.S. Department of Agriculture, in a press release dated Jan. 31, 1949, estimated the 1948-49 world output of cotton at 29,200,000 bales (of 500 lb. gross), compared with the 1947-48 output of 25,300,000 bales and the 10-year average (1935-39) of 31,676,000 bales.

Yields (in 500-lb. bales) of the principal producing countries, in 1948-49, were: United States 14,937,000, U.S.S.R. (Europe and Asia) 2,500,000, China (including Manchuria) 2,300,000, India 2,050,000, Egypt 1,772,000, Brazil 1,400,000, Pakistan 1,055,000, Mexico 560,000, Argentina 369,000, Peru 325,000, Uganda 292,000, Turkey 235,000, and Anglo-Egyptian Sudan 225,000. The world area planted to cotton in the year beginning Aug. 1, 1948, was estimated (preliminary) at 64,875,000 acres.

World Cottonseed Output. According to a press release of the Office of Foreign Agricultural Relations, Nov. 8, 1948, the world 1948-49 cottonseed production was forecast at 13,740,000 short tons, compared with 11,755,000 short tons in 1947-49 and the 10 year average (1935-39) of 15,285,000 short tons. The chief producing countries (with yields in short tons) were: United States 6,091,000, India 1,400,000 tons, China (including Manchuria) 1,232,000, U.S.S.R. (Europe and Asia) 1,250,000, Egypt 920,000, Brazil 673,000, Pakistan 536,000, Mexico 269,000, Argentina 234,000, Uganda 128,000, Turkey 120,000.

COUNCIL OF STATE GOVERNMENTS. A joint governmental agency established (1925) by the States, for service to the States, supported by the States. The Council serves as: A clearing house for information and research, serving the 48 States; A medium for improving legislative and administrative practices of State governments; An instrument for encouraging full cooperation among the States in the solution of interstate problems, both regional and national; and A means of facilitating and improving Federal-State relations.

The Council is composed of commissions or committees on interstate cooperation established in each of the 48 States. The Council also serves as the secretariat for the Governors' Conference, the American Legislators' Association, the National Association of Attorneys General, the National Association of Secretaries of State, etc.

Besides the central office located in Chicago (at 1313 East Sixtieth Street, Chicago 37, Ill.), the Council maintains regional offices in New York, San Francisco, and Washington, D.C. Major publications of the Council include *The Book of the States* (biennial), *State Government* (monthly), and the *Washington Legislative Bulletin* (monthly).

Officers: President, Governor William Preston Lane, Jr., Maryland; First Vice President, Chairman of the Board, Senator Burton M. Cross, Maine; Executive Director, Frank Bane.

COURT GAMES. Robert Grant, 3d, and J. Richards Leonard, New York stars, stood out in racquets competition, Grant capturing the national singles

championship and the Pell Cup for his biggest achievements of the campaign, while Leonard's many conquests included triumphs in the U.S. doubles with Malcolm Kirkbride of Boston, Mass.; the Tuxedo Gold Racquet; the Canadian singles; and the Canadian doubles, in which he paired with Fred de Rham, another New Yorker.

In squash racquets, the United States won the Lapham International Trophy again. Stanley Pearson, Jr., of Philadelphia emerged triumphant in the national championships, taking the singles and combining with Charles Brinton of Philadelphia for the doubles. Other major national title winners included Al Ramsay of Cleveland, professional; George Waring of Boston, veterans; Diehl Mateer, Jr., of Haverford College, intercollegiate; Cecile Bowes of Philadelphia, women's singles, and Peggy Scott of the Germantown (Pa.) Cricket Club and Mrs. Dudley Vail, Jr., of New York, women's doubles.

II. Robert Reeve of the Bayside Tennis Club of Long Island was among the year's outstanding squash players and carried off the national singles squash tennis crown. Joseph Lordi of the New York A.C. won the national veterans' title.

Top event of the court tennis season was the meeting between Pierre Etchebaster, formerly of France, and James Dear of England in their challenge match at the Racquet and Tennis Club in New York City. Etchebaster, truly an iron man in this sport, extended his reign as world champion to 20 years by turning back Dear, English titleholder, by 7 sets to 4.

United States singles honors were won by Ogden Phipps of Roslyn, L.I., who also teamed with Alastair B. Martin of Glen Head, L.I., for the national doubles title.

—THOMAS V. HANEY

CRETE. A mountainous island in the eastern Mediterranean, forming the most southerly part of Greece. Crete is 160 miles long and from 6 to 35 miles wide. Area, 3,235 square miles. Population, 441,687 on Jan. 1, 1939. Chief towns: Canea (capital), 26,604 inhabitants; Candia, 33,404.

CRIMINOLOGY. In 1930, at the request of the International Association of Chiefs of Police and pursuant to an act of Congress, the Federal Bureau of Investigation began the Uniform Crime Reporting program, collecting statistics on crime from law enforcement agencies throughout the land and publishing them at regular intervals in booklets which were given nationwide distribution. Prior to this time, unfortunately, there was no way to tell whether the problem of crime was worse in our day than it was centuries ago. To limit the discussion to the American scene—it is not even possible to make a comparison of the present-day problem with that of two decades ago.

In 1947, there were a total of 1,665,110 estimated serious crimes in the United States. The total for 1937, for example, was 1,415,816. This number increased steadily during the prewar years, reaching a peak of 1,531,272 in 1941. When the nation went to war, crime rates began a slow decline. The total number of major offenses committed dropped to a low of 1,381,681 for 1943. Then the backwash of war set in. The figures mounted steadily from 1943 until they reached an all-time high in 1946.

An average day during 1947 saw 21 persons slain and 47 women raped. Each day in 1947 left 205 persons feloniously assaulted, 159 robbed. Each day, 1,023 burglaries were committed, 506 automobiles stolen and 2,585 larcenies reported.

The first nine months of 1948, compared with the first nine months of 1941, the last peacetime year, show the continued seriousness of the crime problem. Aggravated assault is up 44 percent in 1948; rape rose 34 percent; burglary is 21 percent higher; robbery, 17 percent higher; negligent manslaughter, 6.5 percent higher; and murder increased 6.9 percent. Larceny showed only a 1.8 percent rise and auto thefts declined 10 percent.

Based on the wilful homicide figures for 1947, it is estimated that if the crime rate continues, approximately 154,000 Americans will commit murder before they die, and they will murder approximately 231,000 persons. It is estimated that during the next thirty years, 515,400 rapes will be committed and over 59 percent of these will be forcible in nature. It is further estimated that in the next thirty years there will be 1,743,000 robberies, 2,240,700 aggravated assaults, 11,203,500 burglaries, 28,302,900 larcenies and 5,541,900 auto thefts.

The crime trends reflected by fingerprint arrest records received by the FBI reveal that America is still faced with a serious crime problem among youth. Figures for 1947 compared with 1946 reflect a 21.4 percent increase in arrests of boys 18 to 20 years of age and a 10.5 percent increase in arrests of boys under 21. This comparison reflects that there was a 6.6 percent decrease in arrests of girls under 21. In comparing the 1947 arrest records of young people with 1941, it is to be noted that there is a 4.1 percent increase in arrests of males under 21 and a 30.8 percent increase in arrests of females under 21.

The causes of juvenile delinquency and adult lawlessness do not stem from any one source. Crime is as old as mankind and its roots are imbedded in our whole culture. Progressive research, which considers the criminal or delinquent not only as an individual but also as a member of many groups—the community, the family, the work group, the play group and others—discovers that the individual has been provided with values and attitudes from these sections of social life and that his conduct among his fellow men is guided by such values and attitudes.

The Federal Bureau of Investigation and other law enforcement agencies possess convincing evidence of factors which pave the way for antisocial behavior. Many criminal careers have their beginnings in childhood and early youth. It is to be recalled that gangsterism was the scourge of the land in the period following the first World War. Many members of these gangs started on the road to crime by engaging in delinquent acts during their childhood. They graduated into the ranks of hoodlumism which reached into every walk of life through the medium of powerful criminal syndicates. These gangs brutally victimized those who stood for law, order and decency.

This situation led to a wholesome, aroused public wrath. Law enforcement at the time was not adequately equipped to meet the crisis. Local agencies were handicapped by limitations of jurisdiction. The availability of high-powered automobiles, fast trains, a network of national highways and other modes of travel, gave criminals a mobility they had never before enjoyed. In many instances the equipment available to gang leaders was far superior to that at the command of law enforcement agencies. Federal agencies were powerless to render assistance because they had no jurisdiction to investigate such crimes.

In the 1930's Congress passed a series of laws known as the Federal Crime Bills, giving the FBI

concurrent jurisdiction with local agencies in types of crimes most frequently committed by organized gangs or individuals operating on an interstate basis. American law enforcement on all levels developed a unity of purpose and action which resulted in an overwhelming victory against the underworld before the advent of World War II brought us face to face with another acute problem.

During the recent war years, America was faced with an unhealthy juvenile delinquency problem. In 1941, for example, age 19 predominated in the frequency of arrests. In 1942 and 1943, age 18 predominated. In 1944 and 1945, age 17 led all other age groups. In 1946 and 1947, age 21 was the leading age group.

The pattern of delinquency found fertile ground in the wholesale shifting of rural and village populations to crowded industrial areas. The emotional stresses incident to broken homes, the uprooting of established family practices, the housing shortage, and the lack of recreational facilities produced unique and complicated problems among our youth. The spirit of wartime abandon, the lack of family responsibility and the indifference of parents generally forced legions of youngsters to the streets, for whatever guidance they could obtain, as their parents spent leisure hours seeking enjoyment outside the family hearth.

Behind the confines of the home the road to delinquency becomes easy for children who are welcomed in disreputable dance halls, gambling dens, and other media of moral degradation. The prevention of crime becomes a mockery under our democratic system when corruption in some communities is allowed to seep into the machinery of daily life and shackle justice. The power of the venal politician to influence the processes of law enforcement accounts to some degree for the gravity of the criminal situation. Corrupt political authority and manipulating schemers have abused, in many instances, the worthwhile systems of parole and probation. This has resulted in forcing back upon society scores of ravaging desperadoes who recognize no law but their own.

The real solution to the problem of crime is the responsibility of the American public. Citizens must decide what action shall be taken against the dives where crime is bred, against the subtle forms of dishonesty and obscenity which choke communities, and against the corruption and venality in high places. It is the responsibility of each American to see to it that youth is provided with sufficient training in the homes, in the schools, and in the churches in order that honesty and decency will take the place of lawlessness.

Prompt detection, vigorous and quick prosecution, adequate and certain punishment fitted to the crime, the criminal, and the needs of the community, should be recognized as a program which constitutes a definite deterrent to the commission of crimes and contributes to the reduction of crime among all age groups. —JOHN EDGAR HOOVER

CROSS-COUNTRY RUNNING. Bob Black, Rhode Island State star, captured three of the major prizes in the hill-and-dale sport, his greatest victory coming on November 27 at Detroit, Mich., when he annexed the national Amateur Athletic Union senior championship by the unbelievable margin of two inches. Matching stride for stride with Curtis Stone, defending champion from Philadelphia, Black won by one one-hundredth of a second with a desperate lunge at the tape. The slender war veteran from North Attleboro, Mass., was timed in 30 minutes, two seconds for the grind of approximately six and

one-quarter miles. Team honors were captured by Michigan State.

Black's other titles came in the National Collegiate Athletic Association and Intercollegiate A.A.A. runs, his time of 19 minutes 52 and three-tenths seconds for the four mile N.C.A.A. test shattering the mark of 20:12.9 set by Greg Rice in 1939. Black won the I.C.A. A run after defeating Horace Ashenfelter of Penn State for the second year in a row. Team championships in both college events were won by Michigan State, giving the Spartans a sweep of major team honors for 1948.

The metropolitan A.A.U. senior title was won by Victor Dyrsgall of the Millrose A.A., with the New York A.C. team victor. Dyrsgall had captured the national A.A.U. 20 kilometer run earlier, the Boston A.A. finishing first for the team prize.

Manhattan College retained its metropolitan intercollegiate crown although Bob Berger of Columbia led home the pack, and Army's hurriers repeated in the Heptagonal grind as Stanley Waterman of Dartmouth placed first. In the initial competition for the Mahon Main Trophy, Yale defeated Princeton and Harvard although Stanley Johnson and Don Wittreich of Princeton finished one-two.

Bob Palmer of the University of Maryland set a record of 19 minutes, 40 seconds for the College Park, Md., course as he paced his team to the Southern Conference title. Wisconsin took Western Conference laurels as its ace harrier, Don Gehrmann, placed first.

Sydney Wooderson, former world mile king, starred abroad, winning the English crown after having defeated 449 rivals in the Southern Counties (English) race. The Cooleroes Harriers from County Tipperary, running in bare feet, retained the championship of Ireland, Pat Fitzgerald of the titleholders finishing first.

The classic Boston Marathon on April 19 served as the final American Olympic Marathon tryout and Gerard Cote of St. Hyacinthe, Quebec, won by 250 yards. Johnny Kelley of West Acton, Mass., ran fourth, but reversed the tables on September 12 in New York when he carried off the national A.A.U. marathon crown, Cote being fourth on that occasion. The team title was won by the Millrose A.A. See OLYMPIC GAMES. —THOMAS V. HANRY

CUBA. An island republic of the West Indies. About one fourth of the surface is mountainous, the remainder being composed of lowland terraces and gentle slopes. The climate is subtropical, with a rainy season from May to November.

Area and Population. Area, 44,217 square miles. Population, 5,130,000 (1947 est.). About 65 percent of European descent, the rest mulattoes or Negroes, and a small percentage of Asiatics. There are no Indians in Cuba. Principal cities: Havana (capital), Santiago, Cienfuegos, Matanzas.

Education and Religion. The Constitution guarantees freedom of worship and separation of Church and State. Roman Catholicism is predominant. Spanish is the official language. About 70 percent of the population is literate. Recent statistics estimated a total school age population (7 to 14 years) of 1,100,000, of whom over 65 percent were enrolled in about 6,000 primary schools of all kinds. There are more than 200 secondary schools of various types, with an enrollment of nearly 35,000 students. The University of Havana is the only complete institution of higher learning, with about 15,000 students.

Production. Cuban economy rests mainly on sugar, tobacco, and minerals. Coffee, cocoa, cereals, and fruits are also grown. With some 2.8 million acres

devoted to sugar cane, Cuba's record 1947 crop of 52,500,000 short tons of cane yielded 6,450,000 short tons of sugar and 299,400,000 gallons of blackstrap molasses. Total value of the crop was about \$700,000,000. The United States bought 76 percent of the 1947 crop at a fixed price. Anticipated crop in 1948 was about 5,900,000 short tons of sugar.

Some 155,624 acres are devoted to tobacco; these yielded 84,700,000 lb. in 1946; 78,200,000 lb. in 1947. The 1947-48 crop has been limited to 53,800,000 lb. Coffee production totaled 556,000 bags (of 60 kilos) in 1947-48. Since 1946 its export has been forbidden by decree. Fruit and vegetables rank third in commercial importance; 210,000 short tons of pineapples was produced in 1947-48, of which some 87 percent were exported. Vegetable production includes tomatoes, lima beans, okra, and avacados; exports for the fiscal year ending Oct. 31, 1948, totaled 47,750,000 lb.

The country has a well developed cattle industry (3,844,158 head of cattle in 1945), sufficient for domestic consumption and a small amount of export. Mineral production includes manganese, copper, iron, chromium, nickel, and asphalt. Cuba has a wide range of consumer goods industries, such as textiles, cotton and rayon piece goods, ropes, paint, shoes, cement, beer, rum, cigars, cigarettes, and agricultural tools. In general, 1948 was a year of great economic prosperity.

Foreign Trade. Total 1947 exports were valued at \$746,592,325; imports at \$519,890,402; a substantial increase in the favorable trade balance over 1946. The United States furnished 74 percent of Cuba's imports and took 67 percent of her exports. Cuba's favorable trade balance continued until September, 1948, when imports exceeded exports by some \$4 million.

Finance. Budget estimates for 1947 placed revenue at 349 million pesos; expenditure at 200 million pesos. (U.S. dollar equals 1.00 peso). Failure of Congress to enact the 1948 budget, calling for an expenditure of 234.5 million pesos, resulted in the *de facto* adoption of the 1947 budget. Currency in circulation on Dec. 31, 1947 totaled 467 million pesos; bank deposits, 474 million pesos; gold reserves, 290 million pesos. There is no exchange or import control in Cuba, but the Government instituted some measures to regulate the export of currency.

Transportation. The country has 3,653 miles of railroad and 2,324 miles of highways and roads. Motor vehicle registration indicated nearly 50,000 cars, or approximately one vehicle for every 100 persons. Cuba has 1,000,000 radio receivers, 84 radio stations and 70,000 telephones. Air transportation is provided by international companies, while domestic firms fly the lines within the republic.

Government. Under the Constitution of 1940, Cuba is a centralized republic of 6 provinces, with a semi-parliamentary form of government. Legislative power rests in a bicameral Congress, a Senate composed of 54 members (elected for a 4-year term), and a House of Representatives (elected for four years, one for each 35,000 inhabitants). The President, elected for four years, is assisted by a Council of Ministers who are politically responsible to Congress. Dr. Carlos Prío Socarrás was elected President on June 1, 1948 and took office on October 10.

Events, 1948. Early in January, political attention was focused on the Orthodox Auténticos headed by Senator Chibás, who had withdrawn from President Grau San Martín's party. The opposition was

trying to form a united front and names were mentioned for their presidential candidate. Some were looking toward Florida, where ex-President Fulgencio Batista was residing, and there were rumors that he would actively participate in the campaign. Batista finally agreed to run for Senator for the Liberal Party, and gave this group his support.

Among the Auténticos were three or four candidates for the nomination, but the great question was what action President Grau would take. The Cuban Constitution prohibits reelection, but there was talk of a constitutional amendment to allow him to succeed himself. An agreement was later reached and Dr. Carlos Prío Socarrás was nominated presidential candidate for the Auténtico Party, with President Grau's endorsement. During the election campaign no serious incidents were registered, although it was marked by violent language and mutual accusations.

Before elections, the political forces were divided into four main coalitions: the Auténtico Party, in an alliance with the Republicans, supported Prío Socarrás; the Liberals and Democrats, backed Dr. Ricardo Núñez Portuondo; the so-called Orthodox Auténticos (Partido del Pueblo Cubano) with Senator Eduardo Chibás; and the Communists (Socialist Popular Party) who had nominated Senator Juan Marinello.

Victory of Prío Socarrás. Elections were held in an orderly way on June 1, with an unusually high number of ballots cast. The Auténticos received an overwhelming majority and Dr. Prío Socarrás was elected. Noteworthy was the large number of votes (320,000) received by Senator Chibás. The Communists lagged behind with only 140,203 votes. Prío Socarrás, a lawyer, served as Prime Minister and Minister of Labor during the Grau administration.

Shortly before his inauguration on October 10, he announced his first Cabinet, among whom it is important to mention Carlos Hevia, as Minister of Foreign Affairs. Hevia, one of the few Latin American graduates of the U.S. Naval Academy at Annapolis, has been active in politics for a number of years. The appointments of Dr. Alberto Oteiza as Minister of Public Health and Dr. Aureliano Sánchez Arango as Minister of Education were well received; the former is President of the Cuban Medical Association, the latter a well-known professor at Havana University.

Labor Crisis. A serious split continued to exist within the C.T.C. (Cuban Confederation of Workers). It was caused by groups who either preferred to follow the Communist political line, or were adherents of the government party. This situation was aggravated by labor protests and strikes motivated by conflicts with employers. There was unrest among the sugar and railroad workers, an especially serious strike of textile operatives, and a strike of streetcar conductors of Havana. The most important strike was the one caused by the increase, in September, of the bus fare in Havana; from 5 to 10 cents. There were public protests enlivened by the intervention of University students who overturned some of the buses, after having requested the passengers to alight.

New Government Platform. On October 10, President Prío Socarrás was formally inaugurated and his political platform summarized as follows: respect for the democratic principle of separation of power; creation of a National Bank; creation of a Labor Code, civil liberty program, and measures against inflation and black market; intensification of agricultural production and the creation of agrarian cooperatives.

International Front. President Prio Socarrís stated he would continue President Grau's foreign policy and would pledge his country to the defense of democracy. Cuba took an active part in the Ninth Inter-American Conference of American States held at Bogotá, Colombia, in April (see PAN AMERICAN ACTIVITIES). —MIGUEL JORJÁN

CURAÇAO. A territory in the Netherlands West Indies comprising two groups of islands 500 miles apart. One group, just north of Venezuela, includes Aruba (69 sq. mi., pop. 39,138); Bonaire (95 sq. mi., pop. 5,500); and Curaçao (210 sq. mi., pop. 88,323). The other group, just east of the Virgin Islands, includes Saba (5 sq. mi., pop. 1,143); St. Eustatius (7 sq. mi., pop. 970); and the southern part of St. Martin (17 sq. mi., pop. 1,609). Total area: 403 square miles. Population (Jan. 1, 1947): 136,733 (1948 est., 180,000). Capital: Willemstad (pop. 39,678 in 1947) on the island of Curaçao.

Production and Trade. The refining of imported crude oil is the chief industry, and 114,732,942 barrels of refined oil were exported in 1946. Approximately 100,000 tons of calcium phosphate are produced yearly. Other products are straw hats and salt. Foreign trade (1945): 472,391,122 guilders; exports 442,615,122 guilders.

Government. Budget estimates (1948): revenue 38,834,758 guilders (1947: 31,380,023 guilders); expenditure 37,714,386 guilders (1947: 29,738,198 guilders). Curaçao is administered by a governor assisted by a council of 5 members and a States Council of 15 members (10 elected and 5 nominated). Governor: P. A. Kasteel.

CUSTOMS, Bureau of. A somewhat smaller volume of imports accompanied by a reduction in rates of duty resulted in smaller customs collections during 1948 than for either of the two preceding fiscal years. Of the \$542,078,499 total collected in 1948, \$425,825,964 consisted of duties and other customs collections, \$112,880,326 of internal revenue taxes on imported distilled liquors and wines, and the balance of head taxes on incoming immigrants and various other collections for other governmental agencies.

The lower volume of imports was in part due to the high level of prices, so that the total value of imported materials, \$6,271,580,000, was the greatest in the history of the Customs Service. The reduction in the rates of duty was the result of General Agreement on Tariffs and Trade negotiated at Geneva in 1947, a considerable portion of which became effective Jan. 1, 1948, with subsequent reductions in rates of duty on other articles as other signatory nations agreed to the pact. In some instances rates of duty were cut the full 50 percent of the existing rate which had already been reduced 50 percent from the original rate under the Tariff Act of 1930. This made the new rates only one-fourth of the rates specified by the tariff act. That this reduction in rates produced no greater volume of importations than it did was due in part to the high unit prices and in part to the continued scarcity abroad of goods for which the demand in the American market was greatest. In addition, some of the most important types of goods from the revenue viewpoint, such as raw wool, encountered a slower American market than during either of the two preceding years, and on other commodities, such as distilled liquors, the reduced demand was accompanied by sharp reductions in rates of duty.

Customs activities as a whole were at a somewhat higher level than in 1947. More automobiles and buses crossed the border than ever before in

Customs history, and more people entered the United States by various means than ever before. There were more entries of merchandise made in 1948 than at any time in the history of the country. Seizures of merchandise as a result of attempts to smuggle in goods by returning tourists and for other customs violation, remained at a high level, considerably exceeding the number of seizures made during the previous year. The seizures in 1948 were effected largely by regular customs officers since the force of mobile patrolmen along the Canadian border was disbanded when the year began and a similar force of patrolmen along the Mexican border was demobilized as the year ended.

Due to the establishment of new roads or new businesses, customs stations were established during the year at Morgan City, Louisiana; Bremerton and Port Orchard, Washington; Taku Inlet, Alaska; Estcourt, Quebec; and Boquillas, Texas, while the stations at Quebec, Canada, and Perry's Mill, New York, were discontinued. C. A. FREEMAN

CYPRUS. A British island colony in the eastern Mediterranean, 10 miles from the coast of Asia Minor and 60 miles from Syria. Area: 3,572 square miles. Population (1946 census): 450,114 (excluding military forces), of whom 361,199 were Greek Orthodox and 80,548 Moslems. Chief cities: Nicosia (capital), 34,485 inhabitants; Limassol, 22,799; Famagusta, 16,194. Education (1946-47): 478 Greek elementary schools with 48,327 pupils; 208 Moslem schools with 11,413 pupils. Secondary schools include 28 Greek, 2 Turkish, and 4 Catholic. There is a separate educational system for each religion. Greek, Turkish, and English are the official languages.

Production and Trade. The country's economy is based on agriculture. Chief products (1946) were: wheat (2,206,492 bushels), barley (2,283,975 bushels), vetches, olives, carrots, potatoes, raisins, cotton, cheese, flax, hemp, citrus fruits, and oil. Wine production (1946): 3,975,576 gallons. Minerals produced include iron pyrites, asbestos, gypsum, amber, and chrome concentrates. Foreign trade (1946): imports £8,131,831 (first 6 months of 1948, £8,678,499); exports £4,202,300 (first 6 months of 1948, £1,331,011).

Government. Budget estimates for 1948 placed revenue at £4,444,466 (1947: £3,550,703); expenditure at £4,350,971 (1947: £3,510,868). Public debt (Jan. 1, 1947), £3,274,633. Administration of the colony rests with a governor assisted by an Executive Council and a newly reestablished Legislature. A new Constitution for Cyprus was adopted by the Consultative Assembly on May 21, 1948. Governor: Lord Winster.

CZECHOSLOVAKIA. A republic in central Europe composed of two related Slav nations: (1) the Czechs of Bohemia, Moravia, and Silesia in the west, and (2) the Slovaks of Slovakia in the east. Total area, 49,330 square miles; total population (est. July 1, 1948), 12,338,000. The decline in population of about two million since the end of the war, in spite of a large natural increase, is accounted for by the expulsion of the Sudeten Germans. Capital, Praha (Prague), 921,800 (1947). Other important cities: Brno (Brünn), 266,000; Moravská Ostrava, 172,000; Bratislava, 166,000; Plzeň (Pilsen), 126,000. Vital statistics in 1947 (rate per 1,000): births, 23.8; deaths, 11.9.

Education and Religion. The population is predominantly Catholic, an estimated 9,300,000 of whom are Roman Catholic, and 900,000 members of the Czechoslovak Church.

During 1948, the universities had a total enrollment of 50,755 students. A total of 1,056,874 students attended 11,482 elementary schools, and 387,909 students were enrolled in 1,955 high schools in 1945.

Production. Agriculture is the chief industry, with 41 percent of the total land area under cultivation. About one third of the population is engaged in farming and forestry. Principal crops in 1947 were: wheat and rye, 2,716,400 tons; other grain crops, 2,141,180 tons. Meat production averaged 36,000 tons and butter production 1,600 tons monthly in 1947. Livestock (1947 estimate): cattle, 3,941,000; swine, 2,940,000; goats, 1,113,000; and horses, 651,000.

The number of factories in 1947 was 19,695. Of these 2,286 were textile mills; 2,588 glass works and stone factories; 1,789 food production; 1,164 furniture and wood manufacture; 2,827 machinery and metals. Number of industrial workers (1947): textile, 189,100; glass and stone, 109,900; food, 65,000; wood, 41,500; machinery and metals, 412,000.

Industrial production, in metric tons (1947): coal (bituminous), 16,216,000; lignite, 22,362,000; iron ore, 1,363,000; pig iron, 1,422,000; steel, 2,286,000; copper and alloys, 6,000; lead and alloys, 8,000; phosphate fertilizers, 344,000; nitrate fertilizers, 132,000; soda, 89,000; staple fiber, 14,000; rayon, 4,000; hollow glass, 120,000; plate glass, 126,000; small glassware, 8,000; kaolin, 608,000; sanitary ceramic appliances, 5,000; paper, 227,000; cotton yarn, 59,000; worsted yarn, 7,000; carded yarn, 24,000; flax yarn, 9,000. Timber sawn, 2,965,000 cubic meters; plywood, 51,000 cubic meters; veneer, 6,485,000 square meters. Production of footwear, 50 million pairs. Production of electricity, 6,663 million kwh in 1947.

Foreign Trade. Exports (28,609 million crowns) and imports (28,633 million crowns) balanced almost evenly in 1947, as compared with 10,308 million crowns of imports and 14,280 million crowns of exports in 1946.

In Prague on December 12 there was announced a 4,500 million crown textile deal with the Soviet Union, under which the U.S.S.R. will supply 45,000 tons of raw cotton and will receive 8,000 to 10,000 tons of finished textile products from Czechoslovakia in payment. Other agreements, on wool, camel hair, flax fiber, jute, animal hair, and skins, contributed to making this the largest single deal in the history of Czechoslovak foreign trade.

Government. A new Constitution, replacing that of 1920, went into effect on June 10, 1948. It concentrates all power in the 300-man National Assembly. Klement Gottwald, a Communist, was elected President of the republic on June 14, 1948. Antonin Zapotocky, also a Communist, is Premier (for details, see below under *Events*).

Events, 1948. For the second time in a decade, Czechoslovakia lost her democratic liberties and was submerged under a totalitarian regime by the will of a foreign power. What Nazi Germany had done to the little country in 1938-39, Communist Russia did to it again ten years later, except that no changes of the territorial status quo were involved, as yet. In every other respect, Czechoslovakia by the end of 1948 was as thoroughly subjugated to the policies and to the ideology of Soviet Russia as it had been to those of the Third Reich, immediately prior to the outbreak of World War II. It is true that Moscow's intervention in Czechoslovakia's internal affairs was not nearly as overt and brutal as had been Hitler's, yet the final result was practically the same. Where the Nazis

had conquered by the mere display of overwhelming military might, the Russians triumphed through a political maneuver, Trojan Horse style, that made Hitler's fifth column pale by comparison.

The Five Days That Shook Prague. Ever since the Czechoslovak Government, in a flurry of independent action, had attempted to join the Marshall Plan, in July, 1947, it was clear that the Kremlin would take no further chances with the coalition regime then in power in Prague. When Communist Premier Klement Gottwald came back from Moscow, where he had been called on the carpet for his government's stand on the Marshall Plan, he knew that he must get rid of his bourgeois coalition partners at the first opportunity.

That opportunity arose in mid-February, 1948. For some time, the non-Communist members of Gottwald's Cabinet had shown restiveness at the complete control exercised over the national police by the Communist Interior Minister Vaclav Nosek. On February 13 they demanded that Nosek recall his appointment of several more Communists to key police posts.

When Nosek failed to take notice of the demand, although it was backed by a majority of the members of Parliament, and Premier Gottwald also refused to take action, twelve non-Communist members of the Cabinet resigned in protest on February 20.

Thus began the dramatic sequence of events which came to be known as the "Five Days." Immediately after the announcement of the Cabinet crisis, the Communists organized mass demonstrations throughout the country. Addressing a huge rally in Prague, Premier Gottwald denounced the twelve members of his government who had resigned as "agents of foreign reaction," and vowed that they would never be permitted to return to their posts. He publicly demanded that President Beneš let him form what he called a "people's government," in other words a Cabinet composed of Communists and their sympathizers only. Beneš replied that while he recognized the right of the Communists, the strongest party in Parliament, to head the Government, he could not approve the formation of a Cabinet excluding some of the other important groups.

On February 22 the executive council of the Communist-led General Federation of Labor met and threw the full weight of the trades union movement behind Gottwald's demands. "Action committees" were formed with a view to solving the crisis by direct, revolutionary action. The next day, the Prague headquarters of the National Socialist party was occupied by heavily armed police, as other police units marched through the streets of Prague with automatic rifles at the ready. From Interior Minister Nosek came a statement that the National Socialist party (President Beneš' own group) had planned an armed revolt against the state.

On February 24 the "action committees" formed by the Communists, with the blessing of Premier Gottwald and under the protection of Nosek's police, practically took over the administrative machinery. They seized all ministries formerly run by non-Communists, searched the headquarters of other political groups, including the allied Social-Democratic party's, and occupied opposition newspaper plants. The General Confederation of Labor announced plans for a general strike should Beneš persist in his refusal to appoint the Government demanded by Gottwald and the Communists.

By the morning of February 25 the Communists were in physical control of practically all government agencies, communications, industrial plants,

streets and public squares. In the early afternoon their marching columns converged on the Wenceslas Square in Prague for a decisive show of strength. At about 4 o'clock, Beneš gave in to the Communists' clamor and threats, which amounted to an ultimatum. In Gottwald's own words, the President "did not arrive at his decision easily," but "had to accept the will of the people."

The new Government, which Beneš thus reluctantly approved, was composed exclusively of Communists and fellow-travelers, with one notable exception: Jan Masaryk, son of the founder and first President of Czechoslovakia, again accepted the post of Foreign Minister.

The Communist coup had strong reverberations throughout the world. While Moscow rejoiced, though disclaiming all responsibility for what had happened, the western democracies deplored and condemned the events in Prague. World opinion was unanimous in its verdict: those events had been inspired, if not actively directed, by the Kremlin. It was not so generally understood, perhaps, that Czechoslovakia, one of the truly democratic nations of Europe, had fallen a victim to the "cold war." But for the relentless deterioration in Russia's relations with the western powers, and worldwide fears of a new armed conflict, Russia might have tolerated the democratically constituted regime in Prague, at least for some time. The Soviet rulers, in this case, were not so much concerned with "communizing" the Czechoslovak people as they were with establishing a strongly held economic and military outpost in the heart of Europe. (See COMMUNISM.)

Death of Masaryk. What made Jan Masaryk, a tested democrat with an indisputably "western" frame of mind, accept an important role in an otherwise all-Communist regime? For three weeks a puzzled world tried to figure out this enigma. Then the object of all this wondering and guessing ended the enigma by substituting an even greater mystery: he committed suicide, without leaving any conclusive clue as to his real motive.

But, was it really suicide? According to the official version, Masaryk on the morning of March 10—the day he was due for his first appearance in Parliament as Foreign Minister in the new Government—leaped from the bathroom window of his apartment on the third floor of the Foreign Office in Prague. The sole explanation of this startling act offered by the Gottwald Government was that Masaryk had taken his life in despair over the reproaches addressed to him by former friends in England and America, who resented his collaboration with the new regime.

Masaryk's suicide—for, in the absence of any evidence to substantiate rumors of foul play, one cannot but accept this version—produced an even greater shock in the outside world than that of the "Five Days." In Washington, Secretary of State George Marshall commented: "The affair today of Masaryk . . . indicates very plainly what is going on. It is a reign of terror in Czechoslovakia." This was the keynote of press comments and utterances of leading statesmen throughout the world.

More Czechoslovak diplomatic representatives broke with the new regime in Prague. (The ambassadors in Washington and Ottawa already had resigned after the Communist coup in February). At Lake Success, the Czechoslovak delegate to the United Nations, Jan Papanek, not only cut connections with Prague but moved to bring the Moscow-inspired change of regime before the Security Council. When the Secretary General refused to accept the note from Papanek, who by resigning

his post had become a private citizen, the delegate of Chile moved to have the matter put on the Council's agenda. However, the Western powers, lacking positive evidence of Russian intervention in the Czechoslovak crisis, gave only half-hearted support to the Chilean charges and nothing out of the Council debate.

A New Constitution, and an "Election." The new Gottwald Government, now more homogeneous than ever after Vladimir Clementis, a Communist sympathizer, had taken over the foreign ministry immediately set about revising the constitution in a sense that opened the door to totalitarianism. On May 9, the draft of the new fundamental chart was railroaded through Parliament and then presented to the President for his signature. Beneš immediately made known his unwillingness to sign a document lacking an adequate division of powers and sufficiently guaranteed civil rights, and he offered to resign. However, he was prevailed upon by the Government to wait until after the new election set for May 30.

The preparations for, and modalities of this election followed a pattern already familiar in Eastern Europe. Instead of being able to make his choice among a variety of competing political parties, as in the past, the Czech or Slovak voter on May 3 was confronted with a single slate of candidates nominated by the action committees. Out of the total list of candidates for the 300-member Parliament, 211 were Communists and the remainder sympathizers.

The only opportunity that was afforded the voters for expressing disapproval of the single slate or any part of it, was to turn in a white ballot. Several weeks before the election, sources close to the Government forecast that the "National Front," as the single list of candidates was called, would get 90 percent of the vote. When the returns were in this forecast turned out to have been remarkably accurate, for the list got 89.3 percent of the valid votes cast. According to the official figures released by the Ministry of Interior on May 31, 6,431,693 persons voted for the regime, and 772,295 against it.

Beneš Resigns—and Dies. Immediately after the poll, reports from various sources indicated that the President would resign. While the opposition looked to such a move as a gesture of protest, Government circles cited ill health as the reason. Actually both sides were correct. Beneš had been a very sick man for some time and the march of events obviously did nothing to improve his state of health. However, when the President finally stepped down, he left no doubt as to his compelling motive.

On June 7, one day before the deadline for the presidential signature, Beneš announced his resignation. In a letter to Premier Gottwald, he confirmed what previously had been rumored: that his decision had been taken as early as May 4. "We have discussed at that time this decision of mine in connection with the problem of the over-all political situation," he wrote, and went on, "I also announced to you that my doctors recommended to me that I take into consideration the recent state of my health."

In the afternoon of that day the Cabinet, after accepting Beneš' resignation, empowered Gottwald to sign laws, including the new constitution. He promptly did so the following day. On June 10, the new Parliament convened in Prague and four days later it elected Gottwald President, as had been expected. Antonin Zapotocky, Communist Deputy Premier in the former Cabinet and head of the

General Confederation of Labor, was picked to succeed Gottwald as Premier.

In the meantime, former President Beneš had retired to his country estate at Sezimovo Usti, where his condition continued to worsen rapidly. After suffering a third stroke, he died at 6:10 p.m. on September 3, at the age of 64. His passing brought forth an outburst of national sorrow unmatched since the death of the elder Masaryk. The Communist heads of the new regime could not but participate in the universal tribute. A week of official mourning was proclaimed and a state funeral was held on September 8. In order to guard against all contingencies, the ceremony was surrounded by an unprecedented display of armed might. Heavily armed military, police and Communist militiamen watched over every phase of the funeral procession, as 250,000 paid their last homage to a truly beloved president. His body was laid to rest in a simple grave at Sezimovo Usti, as he had requested.

Beneš' death, following so soon after his resignation, removed the last moral as well as political obstacle to the establishment of a Communist dictatorship. There being no longer any possibility of organized opposition at home, scores of prominent Czech politicians fled abroad to organize resistance movements in Paris, London, and New York. On September 10, Hubert Ripka, former Minister of Foreign Trade, announced the formation of a "Council of Free Czechoslovakia" in Paris, which had all the trimmings of a new government-in-exile.

Meanwhile, the new regime was busy uncovering alleged foreign spy plots and purging its armed forces of suspected Western sympathizers. On September 22 an Army captain was sentenced to death as a British spy. Three days later, several arrests and convictions of alleged U.S. secret agents were announced by the Prague regime. Discovery of another "widespread underground plot" resulted in heavy jail sentences for fifty persons on October 8. Early in December, Premier Zapotocky, at the head of a large delegation, paid a state visit to Moscow. He was received by Stalin on December 8. Secrecy surrounded the subject and scope of the talks.

—JOACHIM JOESTEN

DAMS. Among the basic studies of dams made this year are those relating to compaction of earth dams, the studies of percolation, and structural analyses of foundations. Research has been announced which will utilize the analogy of the flow of viscous fluids between parallel plates to determine flow of water through permeable foundation material. The development of satisfactory procedures for allocating costs of multiple-purpose hydraulic projects has been reported.

Excavations for the foundations have been made for the Davis Dam, sixth of a series built by Federal agencies for control of waters of the lower Colorado River. It will be a 3,800,000 cu. yd. rolled-earth rock-filled dam, and will cost \$70 million. It will provide 1,700,000 acre feet of storage for regulation and will permit development of 225,000 kw-a of power. It is located between Hoover Dam and Parker Dam. The Utah Construction Company was the low bidder in 1946 when work was resumed following the war.

Construction of several new dams forming an essential part of the Grand Coulee Irrigation Project of the U.S. Reclamation Bureau made progress during the year 1948 (ground was broken for the great dam and power plants in December, 1933). The ultimate goal is 3,920,000 acre feet of irrigation water to be delivered annually to more than a million acres and an ultimate power development

of 2,800,000 kw. Of especial interest now to report is that on July 1, 1948 the South Dam forming the equalization reservoir at the pumping plant was 88 percent complete, total cost, \$3,820,000; the Long Lake Dam and Reservoir was 70 percent complete, total cost \$2,276,000; and the Potholes Dam and Reservoir, renamed O'Sullivan Dam was 80 percent complete, total cost \$10,983,000.

The "left" power plant on the main river is complete and is able to furnish 1 million kw. The "initial stage" of the pumping plant was complete in 1947. Projects have received "approval in preliminary form" for the construction of the Hell's Canyon Dam on the Snake River, a tributary of the Columbia. It will be 710 feet high with a powerhouse to develop 810,000 kw and form a lake 89 miles long.

The huge McNary dam on the Columbia River extending between the states of Washington and Oregon and located upstream from the Bonneville Dam was started in August. The original contract was let for \$21.7-million but the total cost of the project will be \$227 million at 1947 prices. It will be 8,725 ft. long, and 158 ft. high and it has been designed by the Corps of Engineers. It will develop about a million kw of power. A unique feature of the project is a lock which will be the world's largest—675 ft. x 86 ft. in horizontal cross-section and with a lift of 92 feet. A huge fish ladder will also be provided.

The second largest contract to be signed in the 46-year history of the Bureau of Reclamation was for \$48.4-million to construct the Hungry Horse Dam in Montana. This is only about 10 percent less than the huge contract signed with the Six Companies, Inc., for the Hoover Dam.

The first major unit in the Missouri Basin plan began operation this year. The Kanapolis Dam was dedicated. It consists of an earthen structure 3 miles long, rising 131 feet above the river bed and it will create a lake 12 miles long in the Smoky Hill river valley. Another earth-filled dam to be built by the Bureau of Reclamation in the Missouri Basin for which bids are called is the Cedar Bluff dam also on the Smoky Hill River. It will be an earth-filled structure approximately 134 feet high, and 12,500 feet long. The Army Engineers announced in July a program to spend \$1,200 million in the succeeding 12 months.

Among the dams to be built, beside the McNary Dam already listed, were the following: Garrison Reservoir, North Dakota, cost \$26 million; Ft. Randall Reservoir, South Dakota, cost \$18 million; Bull Shoals Reservoir, Arkansas, cost \$14 million; Wolf Creek Reservoir, Kentucky, cost \$12.4 million; Bugs Island Reservoir, Virginia, cost \$9 million; Center Hill Reservoir, Tennessee, cost \$9 million; Harlan County Reservoir, Nebraska, cost \$8 million; Allatoona Reservoir, Georgia, cost \$8 million; a number of other earth-filled dams to be built this year in the Missouri Basin project have been announced by the Bureau of Reclamation.

The Watauga Dam in Tennessee, an earth-filled structure 320 feet high is being completed by the Tennessee Valley Authority. The Center Hill Dam near Cookeville, Tenn., a masonry structure, 240 feet high is being completed by the Corps of Engineers. The Dairyland Power Cooperators, Inc., has recently begun to build a \$3.1 million dam and hydroelectric power plant, near Ladysmith, Rusk County, Wis. Construction has begun of a \$27 million dam on a branch of the Trinity River near Lewisville, Tex. The Engineering Corps approval has been granted for a \$58 million dam on Blue River at Topeka, Kans.

Among the foreign dams mentioned in the news this year is the following: The Genissiat Dam which was to be completed in December of 1948. It is located on the Rhone River and except for the Dnieperstroy Dam, it will be the largest hydraulic project in Europe, its ultimate capacity to total 470,000 kw.

A dam projected for India across the Kosi River near Barakhshetra in Nepal territory will rise 750 to 850 feet above bedrock and this will be the tallest in the world (Hoover Dam, now the highest, is 730 feet high). It will make possible the development of 1.8 million kw of power and the irrigation of 3 million acres of land which in turn will add a million tons of food annually to the area. Needed flood protection will also be afforded. The cost will be \$300 million.

Another dam to be built is on the Godavari River in Madras Province, to cost \$250 million, to be 420 feet high and 3,000 feet long, and which will provide 100,000 kw of power and will irrigate 2 million acres. The \$150 million Hirakud Dam on the Mahanadi River in Orissa has been started. It will be 150 feet high and 3 miles long and will furnish 350,000 kw of power and irrigate 1 million acres of land. Several other projects are under consideration.

---W. E. HOWLAND

DANUBE CONFERENCE. The "Conference to consider Free Navigation on the Danube" was held in Belgrade, the Yugoslav capital on the Danube, during July and August of 1948. Participants were: the four Big Powers (France, Great Britain, U.S.S.R. and U.S.A.) and the riparian states, Bulgaria, Czechoslovakia, Hungary, Rumania, Ukraine, and Yugoslavia. A British-U.S.A. motion to grant voting rights to Austria's observer was defeated by all other votes. It was the only major international conference of "Western" and "Eastern" nations since the end of the war in which the "Western" nations were outvoted.

Background. The Danube, one of Europe's principal waterways, flows through or forms the border of German, Austrian, Hungarian, Czechoslovak, Yugoslav, Bulgarian, Rumanian, and Ukrainian territory. At the Paris Peace Conference of 1946, the demand for a "free" Danube caused one of the main arguments. The U.S.A. wanted "free navigation" in order to counteract Russian preponderance in the Danubian states. Russia and the two Danubian Allies, Czechoslovakia and Yugoslavia, argued that a "free navigation" clause would interfere with the right of Danubian states to organize the Danube regime and expose them to too strong economic and political influence from the U.S.A. In essence, the American standpoint prevailed, when the following identical article was inserted in the Peace Treaties with Hitler's wartime allies, Bulgaria, Hungary, and Rumania:

Navigation on the Danube shall be free and open to the nationals, vessels of commerce and goods of all states on a footing of equality in regards to port and navigation charges and conditions for merchant shipping. The foregoing shall not apply to traffic between parts of the same state.

Issues and Decisions. At Belgrade, the only question was how to implement this rule—i.e. what "free navigation" on the Danube was to mean.

After three weeks of sometimes very acid discussions, the Soviet draft convention was adopted with minor changes.

Art. 1 provides for free navigation in the same

words as in the just quoted article of the peace treaties.

The United States considered that these provisions on non-discriminatory treatment did not go far enough. It criticized, especially, articles providing that otherwise commerce was to be "subject to regulations established by the Danube states concerned" viz., "on the basis of agreements concluded with the appropriate transportation and expeditionary agencies." These clauses would perpetuate the privileged position of the Soviet-Hungarian and Soviet-Rumanian companies. Instead, the U.S.A. demanded the right for American and any other navigation companies, once and for ever, to establish and maintain agencies and acquire the necessary buildings and business facilities along the river in those various states rather than having to use the facilities of "privileged" companies or being otherwise under the legislation of the respective Danube state.

Russia and the Danubian states insisted that this would be an entering wedge for the U.S.A. to use its superior economic strength for dominating the Danube area; that it would deprive the countries directly concerned of the right to organize their economic life with the necessary flexibility; and that the U.S.A. would never agree to a similar regime on, say, the St. Lawrence.

The Western Powers also moved unsuccessfully to have the four big Powers represented on the Danube Commission. U.S.A. participation was requested because, and for such a period as, the U.S.A. represented the interests of Southern Germany, and part of Austria, as occupying Power, and because these two territories participate in the Marshall Plan. But the Balkan states repeated their argument of the Paris Peace Conference of 1946, namely, that their past experiences with similar arrangements were too unfavorable. As adopted, the Treaty provides for a Danube Commission composed of one representative of each riparian state.

Another U.S.A.-British Proposal was to link the Danube Commission with the United Nations; and to have the detailed arrangements not decided by this Conference but worked out later, between the Danube Commission and UN. The Danubian states declined, because in this way they would have to negotiate in a body where they would be hopelessly outvoted.

Again arguing that they would not yield their hard-won national sovereignty on the jurisdiction over their main artery of communication, they rejected the proposal that disputes about the Treaty should finally go before the International Court of Justice in The Hague. As adopted, the Treaty provides, instead, for a Conciliation Commission composed of one representative of each party to the dispute, and one representative appointed by the Chairman of the Danube Commission from among the nationals of a State involved in the dispute, the third Conciliator to be appointed by the whole Danube Commission.

All in all, the U.S. position was to give the "free regime" an extensive interpretation, practically amounting to internationalization of the river. This would have prevented the Danubian states from legislating on Danube commerce, and from entering into preferential treaties among themselves and with third states (e.g. Russia). The Danubian countries east of Austria, while guaranteeing "free and equal navigation" obtained a Treaty which permits them to carry out their intentions of organizing Danube traffic within the framework of their planned economies.

The U.S.A. and the British delegates did not sign the Convention as adopted by the majority of the Conference. The U.S. State Department formally declared that the U.S.A. "will not recognize any commission set up to rule over areas of the river flowing through American-occupied Austria and Germany."

JOHN H. E. FRIED

DEFENSE TRANSPORTATION, Office of (ODT). During the year 1948 the Office of Defense Transportation was concerned with a number of problems arising from acute shortages of domestic railway freight cars. Efforts were continued to secure maximum utilization of the limited number of domestic freight cars available, and to accelerate the construction of such equipment.

The inadequate supply of domestic railway freight cars has made it necessary to continue some "wartime" controls over rail traffic. These controls consist of heavy loading requirements on carload freight, the loading of cars containing merchandise (less-than-carload freight) to a weight not less than 20,000 lb., and restrictions on carload freight moving by rail to port areas for further movement by water. The removal of these controls would result in considerable increases in freight car shortages.

In the early part of 1947 a voluntary program was undertaken which had as its objective the construction of a minimum of 10,000 domestic freight cars per month and the prompt repair of railroad rolling stock. With the enactment of Public Law 395 on Dec. 30, 1947, steps were taken to formalize under that law the then existing plan covering the voluntary allocation of steel products for the construction of domestic freight cars and the repair of railroad rolling stock. The plan was formally approved on Mar. 30, 1948.

Under the plan the Secretary of Commerce determines the over-all quantities of steel products to be furnished for the car building and repair program. The individual car builders participating in the program submit to the Office of Defense Transportation schedules showing, by plants, the number and types of domestic freight cars scheduled for production monthly. Participating car builders, component parts manufacturers, railroads, and private car lines each submit quarterly estimates of their steel products requirements for the car building and repair program. The Office of Defense Transportation reviews the individual car building schedules and quarterly estimates submitted, and relates the estimated requirements to the over-all program. The quantities and types of steel products to be made available under the program to each individual consumer from steel rollings in each quarterly period are determined by the Office of Defense Transportation and an equitable distribution of the steel products tonnage required in the program is made among the various steel producers participating in the program. Each individual consumer makes its own arrangements for securing the steel products assigned to it. Approximately 250,000 tons of steel products per month are required under the program.

In the first 10 months of 1948 the construction of domestic freight cars totaled 93,383, or an average of 9,338 cars per month. During the year 1947, 68,507 domestic freight cars were built, or an average of 5,709 per month. Although the increase in domestic freight car construction during 1948 is encouraging, the heavy rate of retirements of worn-out cars and increases in "bad order" cars have prevented any substantial increase in the number of serviceable freight cars since Jan. 1, 1948. Of

the 93,383 domestic freight cars built during the first 10 months of 1948, 80,599 were delivered to Class I railroads. Retirements of worn-out cars by Class I railroads during the same period totaled 53,131 cars. Bad order cars of Class I railroads rose from 71,636 on Jan. 1, 1948, to 78,401 on Nov. 1, 1948, an increase of 6,765. The net gain in serviceable freight cars of Class I railroads from Jan. 1, 1948, to Nov. 1, 1948, was only 15,703 cars, or an average of 1,570 per month at a time when the construction of domestic freight cars averaged 9,338 cars per month. More than one-fifth of the freight cars in service at the beginning of 1948 were over 30 years old and a high rate of freight car retirements may be anticipated for the next several years.

In addition to the freight car program the Office of Defense Transportation has developed a program relating to the voluntary allocation of steel products for the construction, repair, and conversion of domestic freight-carrying barges and towing vessels of 3,000 gross tons or less. The proposal for a barge program gained its impetus originally from studies made by the National Petroleum Council on steel requirements of the oil industry to meet greatly increased demands for petroleum products. The objective of the program is the construction of approximately 75 barges per month and a necessary complement of towing vessels, as well as making available sufficient steel products to permit the prompt repair and conversion of barges and towboats. As in the case of the freight car program, the Office of Defense Transportation, with the assistance of industry advisory committees, recommends steel products tonnages to be made available for the program by each participating steel producer and establishes monthly steel products quotas for each consumer participating in the program. At the present time approximately 20,000 tons of steel products per month are being made available for the barge program. It is expected that this will be increased to approximately 25,000 tons per month early in 1949.

The Office of Defense Transportation has repeatedly recommended an enlargement of the present freight car construction program. It is felt that such action is warranted in spite of the present acute shortage of steel. Shortages of freight cars adversely affect the domestic economy and present serious implications from a standpoint of national security. Although freight car loadings for 1948 were 3.7 percent below those for 1947, they approximated those of 1944—the peak war year. At the end of 1948 there were approximately 25,000 fewer serviceable freight cars in operation than were in operation on V-J Day. —J. M. JOHNSON

DELAWARE. A south Atlantic State. Area: 2,370 sq. mi. Population: (July 1, 1948) 297,000, compared with (1940 census) 266,505. Chief cities: Dover (capital), 5,517 inhabitants in 1940; Wilmington, 112,504. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$19,819,000; total expenditure, \$19,605,000.

Elections. Dewey won the State's 3 electoral votes by receiving 69,633 votes to Truman's 67,921. The State's single seat in the lower house remained Republican. Other contests went to the Democrats. Incumbent Republican Senator Buck lost his race for reelection to J. Allen Frear, Jr.; and Democrat Elbert N. Carvel beat Hyland P. George for the governorship. Democrats won the following: Lieu-

tenant Governor, Alexis du Pont Bayard; Treasurer, Willard D. Boyce; Auditor, James W. W. Baker.

Officers, 1948. Governor, Walter W. Bacon; Lieut. Governor, Elbert N. Carvel; Secretary of State, William J. Storey; Attorney General, Albert W. James; State Treasurer, Benjamin F. Johnson; State Auditor, Benjamin I. Shaw.

DENMARK. A kingdom of northwestern Europe, comprising the peninsula of Jutland, the two main islands of Zealand and Fyn, and about 200 smaller adjacent islands in the Baltic. Capital of Denmark, Copenhagen. King, Frederik IX, who succeeded to the throne Apr. 21, 1947.

Area and Population. Total area, excluding outlying possessions, 16,575 square miles. Estimated population (July 1, 1947), 4,146,000, as compared with 3,844,300 at the census of Nov. 5, 1940. Birth rate (1947): 22.1 per 1,000 inhabitants; death rate, 9.7; marriage rate, 9.6. Chief cities (1946 pop.): Copenhagen (with suburbs) 1,079,000; Aarhus, 197,393; Odense, 97,436; Aalborg, 80,880.

Education and Religion. There is no illiteracy. In 1946 there were 4,171 elementary schools with 471,748 pupils and 388 secondary schools with 76,800 pupils. The number of registered students at the two universities—Copenhagen and Aarhus—in 1946 was about 7,000, including 1,700 women. While there is full religious liberty, the Lutheran Church is the Established Church of Denmark, supported by the state. At the time of the last census, in November 1940, all but about 70,000 persons—who were mostly Roman Catholics—belonged to the Lutheran Church.

Production. Denmark is essentially a land of intensive dairy farming. Industry, however, is also important, despite an almost complete lack of minerals and water power. Shipbuilding and engineering, in particular, are leading Danish industries. Before the war, 35 percent of the working population was employed in agriculture and dairying and 33 percent in industry. Commerce and fishing were the other important occupations.

The 1948 harvest was, on the whole, good. According to preliminary estimates, the grain crop amounted to about 3,400,000 tons, or about 265,000 tons more than in 1947. Other crops also were better than in the preceding year.

Meat production in 1947 averaged 16,700 tons of beef and 16,900 tons of pork monthly. Butter production was 10,400 tons monthly. Livestock in 1948 included 2,830,000 head of cattle; 1,462,000 pigs; 23,800,000 poultry.

Foreign Trade. Imports, in 1947 amounted to 3,087 million crowns; exports, 2,316 million crowns. Thus the import surplus was 771 million crowns against 1,230 million in 1946. Exports of agricultural products, especially butter, eggs, bacon, and meat, were substantially higher both in quantity and value than in 1946.

Finance. The budget for the fiscal year 1949-50 balances at 1,900 million crowns, showing a surplus of 11 million crowns. Expenditure and revenue are approximately the same as in the preceding fiscal year.

Transportation. On Jan. 1, 1947, Denmark had 5,057 miles of road, 3,031 miles of railway. The merchant marine, hard hit by the war, declined from 1,210,000 gross register tons in 1939 to 921,000 tons in 1946; at the same time, the number of registered ships increased slightly from 1,902 to 1,961.

Government. The Constitution of June 5, 1915, as amended Sept. 10, 1920, vests executive power in

the King acting through a cabinet responsible to the Riksdag (Parliament). Legislative power rests jointly in the King and Riksdag. The Folketing (lower chamber of the Riksdag) consists of 149 members elected for four years by proportional representation. The Landsting (upper chamber) comprises 76 members serving for eight years; its powers are very limited. Prime Minister: Hans Hedtoft, (appointed Nov. 12, 1947).

Events, 1948. It was an uneventful year for the Danes, the quietest yet since the end of the war. There were no changes in government or no political battles to speak of, no trouble with foreign powers. The only happenings worth mentioning were new developments in the unfinished business carried over from the preceding year.

South Schleswig: The Debate Goes On. The unsolved South Schleswig issue remained in the forefront of public attention. It continued to tax Danish relations with Great Britain as well as with the German state of Schleswig-Holstein, even though nothing dramatic was done by either side.

In a note delivered to the Danish Ambassador in London on Dec. 8, 1947, and made public ten days later, British Foreign Secretary Ernest Bevin censured the South Schleswig Association (SSV), the political and cultural organization of the Danish minority in Germany, for its separatist activities. He declared that official recognition of the group by the British Military Government would be withheld if it continued its "intimate connection" with organizations outside Germany. The note went on to say that if the SSV were recognized, Britain would consider it improper for the group to advocate the transfer of part of German territory of another country—Denmark—or the creation of an independent territory.

The note, which was generally regarded as a triumph for the German viewpoint, caused disappointment and irritation in Denmark. It put a damper on the agitation around Schleswig, but not for long. In April, a new campaign for changing the status quo in Schleswig got under way in the Danish press and certain political circles. The idea began to take root that Denmark, instead of seeking outright annexation of South Schleswig, should strive for separation of the contested territory from the purely German Holstein, as the first step toward a plebiscite to be held perhaps in five years. Even the Social-Democratic Government of Premier Hans Hedtoft favored this view.

Accordingly, the SSV changed its tack. In June, the organization divided itself into two groups, one limiting itself to cultural matters and relief work (under the old name of SSV), while the other ("South Schleswig Voters Union" or SSW) applied to the British Military Government for recognition as a German political party. In doing so, the SSW announced a 12-point program calling, among other things, for administrative separation of Schleswig from Holstein and equal rights for the Danish language in the former state, which was to remain within the framework of Germany and the British zone of occupation, at least until further notice.

The Danish Government, for its part, gave strong diplomatic support to this program. On June 28, the British Military Governor for Germany, Gen. Sir Brian Robertson, arrived in Copenhagen for talks with Foreign Minister Gustav Rasmussen on this and related issues. A month later, on August 3, Rasmussen went to Germany. He conferred with the British regional governor for Schleswig-Holstein, Mr. William Asbury, and with the German Minister-President of that state,

Hermann Luedemann, in Kiel. Then he continued to Berlin, where he saw representatives of the Soviet as well as of the Western Allied military governments.

The upshot of Rasmussen's travels was that the British licensed the SSW as a political party (on August 6) and promised to take up the question of Schleswig's administrative future at a special conference in the fall. The conference was opened in London on October 18, a few days before the Schleswig-Holstein municipal elections, (at which the SSW and another Danish group together polled 92,000 votes, or 7.4 percent of the total cast). On October 23 a statement was issued which forecast a special status to the Danish-minded minority in South Schleswig in order to "secure to them in addition to their normal civic rights the freedom to enjoy their ancient Danish culture," but not administrative separation.

The Refugees Go Home. While comparatively little progress was made on the Schleswig issue, Denmark's No. 2 postwar problem, that of the German refugees, was all but completely settled during the year. Of more than 250,000 German nationals stranded in Denmark at the time of the surrender, about one-fifth were still left at the start of 1948. Their fate was the subject of protracted talks in London in April and May. But it was not until after Foreign Minister Rasmussen's trip to Germany (see above) that a final solution was found. In August, the repatriation of 25,000 more refugees into the American-British bizonal zone began and early in September the French Military Government agreed to admit 15,000 into its zone of occupation. However, Rasmussen's efforts, during his stay in Berlin, to obtain admission into the Soviet zone for a comparatively small number of refugees remained without result. By the end of the year, only a hard core of about 5,000 unrepatriables remained in Denmark.

Nordic Cooperation. The natural bonds with the neighboring Scandinavian states, which the war years had loosened, were strengthened again at a number of conferences held during the year (see also SWEDEN). The question of a Northern customs union, analogous to "Benelux," was the object of two meetings in Copenhagen, on April 24 and June 3, by a permanent inter-Scandinavian committee of experts. Recommendations were drafted for a detailed study of all problems inherent to the establishment of such a customs union and it was decided to maintain close contact with the Benelux countries for this purpose.

The touchy question of a Scandinavian military alliance was approached by all sides with understandable caution. Observers noted with interest, however, that Denmark, which in prewar years had been the least responsive to proposals of military alliance, now appeared to favor such a course, while Sweden was holding back.

Denmark and the "Cold War." The world-wide propaganda war between Russia and the West was not without its repercussions in peaceful Denmark. Reckless charges of a secret military alliance and American bases on Danish soil were bandied about by the Soviet press and radio. When the Danish Government in March took certain precautions against subversive activities, Moscow interpreted this as a move designed to cover up military negotiations with the United States and the Western Union. On April 7, the Soviet mouthpiece in foreign affairs, "New Times," charged once again that Denmark was about to turn over Greenland to the United States.

Otherwise, however, Greenland did not figure

as prominently in the news as it had in the preceding year. On July 9, the Danish Communist party issued an appeal to the Government to "take effective steps" in order to ensure a complete withdrawal of American military forces from Greenland, "if necessary through United Nations intervention." In July and August, Premier Hans Hedtoft visited both Danish overseas possessions, Greenland and the Faeroe Islands.

In September, unauthorized flights of Russian military planes over the Danish island of Bornholm were reported on several occasions. One of these, on September 9, happened to coincide with a Scandinavian Foreign Ministers' meeting in Stockholm. At the same time Soviet warships were sighted off the coast of the island, adding to the impression that this was an intentional warning.

War Crimes and Punishment. The long-expected trial of the Nazi war criminals in Denmark finally was held during the year. In mid-June, the four top men in the German occupation regime were arraigned before a Copenhagen court on 225 charges of war crimes and terroristic acts. The trial ended on September 20 with death sentences against Werner Best, Hitler's "plenipotentiary" (actually civil governor) in Denmark and the Gestapo chief Otto Bovenstein. Gen. Hermann von Hanneken, commander of the occupation forces, and SS Gen. Guenther Pancke, head of the Security Police, were sentenced to 8 and 20 years in prison, respectively. The sentences were appealed.

The Economic Situation. Economic conditions in Denmark in 1948 showed a marked improvement over the preceding year. A good harvest and the beneficial effects of the Marshall Plan combined to ease shortages and bring prices down. Gas rationing and certain restrictions on the use of electric power were lifted on September 1. At the same time, the bread ration was restored to the rather generous level of the period before the 1947 crop failure (see 1947 YEAR BOOK). Clothing coupons were made freely available.

During the first part of the year a tight situation prevailed in industry, due to sharply curtailed deliveries of coal from the Ruhr, when Danish importers fell behind in their payments of scarce dollars. In July, however, funds from the ERP became available for this purpose and coal deliveries were resumed on an increased scale. From England, too, considerably more coal was forthcoming than at any time since the war. As a result, allocation of coal to Danish industry was increased by 25 percent in September and stocks for winter home use were brought to a satisfactory level before the end of the year.

Denmark's foreign commerce also took a favorable turn. New trade agreements were concluded with Great Britain, Russia, and Belgium, among other countries. With each of the three divisions of Germany (bizonal, Soviet, and French) a separate arrangement was made. The bizonal trade agreement, signed on September 3, provided for an exchange of \$21.5 million worth of goods.

The agreement with Britain, announced on February 22, gave Danish exporters much of the price increases sought by them, ranging from 3 percent on butter to 40 percent on bacon and 48 percent on eggs. An 18-month trade pact with Russia, signed on July 10, called for \$31 million worth of goods to be exchanged between the two countries.

In September a new trade pact with Britain was concluded for the period Oct. 1, 1948 through Sept. 30, 1949. Under its terms, 90 percent of Denmark's exportable surplus of bacon and 60 percent of the butter were reserved for the British con-

summer, at current prices. Britain agreed to deliver 1.6 million tons of coal, or about twice the amount shipped to Denmark in the preceding year.

—JOACHIM JOESTEN

DENTISTRY. A critical analysis of dentistry and its problems points to the probable course that dental practice will follow in the foreseeable future. The first of these is the recognition of the importance of dental health at the national level and secondly that the practicing dentist must be prepared to utilize more fully the preventive measures that are being made available.

At the national level, the 80th Congress has provided funds for the establishment of a National Dental Health Institute at a cost of some \$2 million, with some \$750,000 additional to be expended on various research problems involving dental disease. The two predominant diseases to be studied are dental decay and periodontal disease. There are 17 Federal dental research studies being made; one by the Army, four by the Navy, and twelve by the Public Health Service.

A clearest exposition of this program is presented in an address by Dr. Leonard A. Scheele, Surgeon General, U.S. Public Health Service, and published in the December, 1948, issue of the *Journal of the American Dental Association*. Dr. Scheele develops the thesis that research develops the technique for the mass prevention of dental disease and through consultations requested by the various State Health departments develops programs for the individual States to inaugurate and project to the community level.

The American Dental Association, through the various State dental societies, has pursued an extensive campaign acquainting the dental practitioner with the most efficient methods of applying topically sodium fluoride to the teeth, the use of carbamide and ammonium compounds in tooth powders, and the revived use of silver nitrate and zinc chloride as preventive agents.

Dental Manpower. The success of any program is the availability to provide sufficient manpower. The present dental directory, the first published in 25 years, indicates that there are slightly over 70,000 practicing dentists in the United States, one dentist to every 2,000 inhabitants—with a marked concentration in the urban areas and a marked deficiency in the rural areas, and this is an unfortunate distribution. Of this number, some 3,500 are serving with the Federal Government in the Army, Navy, and Public Health Service, while an estimated additional 1,000 are employed by State and local institutions and departments of health.

Dental Schools. The enrollment of dental students is continuing at a capacity level with a majority of the students still in the G.I. category. Some 7,244 are in predental training, and 7,814 in the dental schools. There is still an acute shortage of dental personnel in the Armed services. Definite efforts are being made to make this service more attractive by furthering the autonomy of the Dental Corps, by increasing the base pay of dental officers in recognition of their increased investment in time and expense in getting dental training, and by the granting of deferments by Selective Service to bona-fide predental and dental students.

There has been established a new School of Dentistry at the University of Alabama, two new schools of oral hygiene at New York State Colleges of Arts and Sciences in Brooklyn and in Buffalo, and a predental course project for North Dakota. The following dental schools—Baylor University, Howard University, University of Kansas City, Lo-

yola University (Chicago), University of Oregon, University of Tennessee, University of Texas, Tufts College Dental School, Medical College of Virginia, University of Washington, and the Eastman Dental Dispensary are undertaking extensive building and rehabilitation programs which will improve their teaching facilities and provide for enlarged research programs that have been so lamentably underdeveloped.

Dental Teaching. Two important adjuncts to the dissemination of dental information were inaugurated in 1948. First, the use of long-distance telephone lines to transmit a series of postgraduate courses to Scranton, Pa., dentists by instructors speaking in distant cities to groups gathered before a loudspeaker; secondly, the use of radio by means of which an instructor confined to his home, lectured to his students assembled in a lecture hall at the University of Pennsylvania; and thirdly, the application of video—the first dental meeting to be televised was held in Philadelphia in February, and the first demonstration of technique in periodontia presented to a large group at Creighton University.

What's Now in Dentistry. The outstanding contribution of the year for the practicing dentists was the introduction of an absorbable cellulose packing that could be placed in the tooth socket following post-operation which prevented the entrance of infection, and reduced bleeding to a minimum.

During the past year a number of popular articles have been written on dentistry for the layman, in such magazines as the *Saturday Evening Post*, *Colliers*, *Life*, *Cosmopolitan*, and *Scientific American*. These emphasize the three channels of mass prevention of dental decay:

(1) Fluorine—the use of sodium fluoride in drinking water. Fluorine is also used in direct application to children's teeth, though experts are at variance as to the time between treatments.

(2) The use of a tooth powder containing carbamide and ammonia which tends to reduce the acid-producing powers of the mouth flora.

(3) The reintroduction of zinc chloride and silver nitrate as caries resistants when topically applied.

In New York City there is a tremendous undertaking in the prevention of dental caries where 50,000 children are receiving topical applications of sodium fluoride.

Perhaps the most interesting innovation of the year is the establishment of a caries-control clinic at the dental school of the University of Pennsylvania, at which dentists living within 100 miles of Philadelphia can have individual patient saliva examined for potential acid-producing bacteria. Such examination and report includes the determination of methods suggested for control. Significant in the service are the suggestions for dietary control.

This year has seen the first accrediting of Hospital Dental Departments. About 80 hospitals in 10 States and 4 Army and 5 Navy hospitals have been certified to have dental service acceptable to the standards adapted by the American Dental Association.

Two important observations have been made: first, that dental schools are taking a more definite place in initiating dental research, and second, that they are providing long-term postgraduate courses in specialized fields of dentistry leading to advanced degrees and short-term refresher courses.

—RALPH S. VOONIES

DISCIPLES OF CHRIST. A Christian unity movement which had its beginning during the revival period

of the early 19th century. Its leaders were Barton W. Stone, in Kentucky, and Thomas and Alexander Campbell in Western Pennsylvania. Congregational in policy, they believe that sects are unscriptural.

The communion maintains 9 hospitals, 16 dispensaries, 6 homes for children, and 355 mission schools. In 1946, 25 colleges, universities, foundations, and Bible Schools cooperated with the Board of Higher Education. Total church membership in the United States (1948): 1,724,905. Headquarters: 516 K of P Building, Indianapolis 4, Ind.

DISTRICT OF COLUMBIA. A district, co-extensive with Washington, the national capital of the United States. It is enclosed by the State of Maryland, and on the west is bounded by the Potomac River. Total land area: 62 square miles, excluding inland water of 8 square miles. The population, according to the census of 1940, was 663,091, of whom 474,326 were white, 187,266 Negro, 190 Indian, and 724 Asiatic. In 1940, 62.2 percent of the population (212,118 men and 131,915 women) were gainfully employed; 4,087 men and 7,276 women were reported divorced; families numbered 170,640 (of 3.9 persons). The estimated population (July 1, 1948) was 898,000.

The city of Washington, with Georgetown, covers about one-seventh of the area of the District. About six-sevenths of the area is occupied by farms, gardens, and suburbs. In 1940 there were 65 farms averaging 36 acres. Flowers, vegetables, and dairy products were the principal products of the farms.

Government. A board of three commissioners administers the government of the District of Columbia. Two of the commissioners are appointed from civil life by the President of the United States and are confirmed by the United States Senate; the third is detailed (by the President) from the Engineering Corps of the United States Army. District commissioners are in charge of ordinary municipal matters. Legislation is enacted by the Congress of the United States, after consultation with the board of commissioners. Residents of the District of Columbia do not vote.

DOGS. Champion Rock Ridge Night Rocket, Bedlington terrier belonging to Mr. and Mrs. William A. Rockefeller of Greenwich, Conn., gained unique honors by winning both the biggest indoor and outdoor bench classics. Night Rocket went best in show at the Westminster Kennel Club's seventy-second fixture in Madison Square Garden February 11-12, taking top prize for this blue-ribbon classic after keen judging of 2,540 canines.

The Rocket then repeated his victory of 1947 in the Morris and Essex Kennel Club exhibition—largest outdoor dog show—in May. The 1948 show at Madison, N.J., attracted 2,664 entries.

An old English classic was restored in October, and the first postwar Crufts exhibition, staged in London, resulted in a triumph for Tracey Witch, cocker spaniel bitch shown by Herbert S. Lloyd of Uxbridge. Lloyd, an exhibitor for 51 years, saw his cocker spaniels capture five awards.

Tip Top Bob, pointer owned by E. J. Laney of Daytona Beach, Fla., took the United States Field Trial Association's open all-age stake; Peter Rinski, pointer owned by R. R. Waugh of Peoria, Ill., took bird dog honors and Briscoe's Carolina Doughgirl, pointer owned by P. Briscoe of Oklahoma City, Okla., was the amateur field trial winner.

—THOMAS V. HANEY

DOMINICAN REPUBLIC. A republic of the West Indies, in the eastern part of the island of Hispan-

iola. More than two-thirds of the surface is occupied by highlands, the rest by low plains and tropical coastlines. The central plains receive the heaviest rainfall. Temperature in the lowlands is high throughout the year.

Area and Population. Area: 19,332 square miles. Population: 2,182,109 (1948 est.), of whom about 67 percent are mestizos; 19 percent Negroes; 14 percent of European descent. The capital is Santo Domingo de Guzmán (now officially named Ciudad Trujillo), 139,090 inhabitants in 1946. Other cities of importance: Santiago de los Caballeros, San Pedro de Macoris, Barahona, and Bani.

Education and Religion. The Constitution guarantees freedom of worship. Roman Catholicism is predominant. Spanish is the official language. Illiteracy in 1946 amounted to 35.75 percent of the population, compared with 75 percent in 1930. In the 1947-48 school year there were 2,184 public primary schools attended by 220,409 students; 35 public secondary schools and 13 special ones with 4,531 students, and the University of Santo Domingo with an enrollment of 1,558.

Production and Trade. The Dominican Republic is an agricultural country, with a few industries of consumer goods. Sugar is the chief crop, yielding 465,428 metric tons in 1946-47. Principal lines of production in 1947, with figures representing export values in dollars, were: sugar, 50,424,067; cacao, 12,951,998; tobacco, 4,547,867; coffee beans, 4,050,355; molasses 2,962,271; corn, 1,135,754; roasted coffee, 1,076,020; refined sugar, 873,214; and bananas, 651,080.

Livestock (1945): 762,845 head of cattle; 783,015 hogs; 468,026 goats and 40,037 sheep. Forest products are chiefly cedar and mahogany, and furniture exports in 1947 were valued at \$107,181. Local industries include sugar refineries, rum, peanut oil, cigars, cigarettes, and other consumer goods.

Total exports in 1947 were \$83,205,993; imports, \$48,700,000. Principal customers in order of importance were Great Britain, the United States, Canada, Chile, Puerto Rico, and the Netherlands West Indies. Principal suppliers were the United States, India, Canada, Netherlands West Indies, Mexico, and Argentina. Imports during the first six months of 1948 were \$28,990,000; exports, \$40,660,000.

Transportation. The Dominican Republic has 245 kilometers of government-owned railroad, plus about 1,000 kilometers of private lines, mostly owned by the sugar companies. There are 2,500 kilometers of highway, and in 1947 there were 2,884 cars, 2,555 trucks, and 356 buses. International air service is provided by the Pan American Airways, British Airways, and Royal Dutch Airlines; domestic air transportation by the Compania Dominicana de Aviacion.

Finance. The 1948 budget shows revenue of \$58,132,600; expenditure of \$58,153,318. This is an increase in revenue of \$17,907,908; in expenditure of \$18,071,163, over the 1947 budget. Currency in circulation on Sept. 30, 1947, was \$27 million; bank deposits, \$35.3 million. The Dominican Central Bank balance sheet on Apr. 30, 1948, showed total assets of \$25,319,515. A system of exchange control has been established. Cost of living index at the end of 1947, was 219 (1937 = 100).

Government. Under the Constitution of Jan. 10, 1947, the Dominican Republic is a centralized republic of 18 provinces. It has a Senate of 19 members and a Chamber of Deputies of 45. Members serve for 5-year terms, as does the President, who is assisted by a Cabinet. On May 16, 1947, General

Rafael Leonidas Trujillo was elected for the fourth time to the office of President, thus continuing the political control which he has maintained, directly or indirectly, for 18 years.

Events, 1948. Another year was added to Trujillo's long dictatorship. Domestic political opposition was uneventful, as the *Juventud Democrática* and *Partido Socialista Popular* groups were allowed little activity. Attention was focused chiefly on the international Caribbean front, and speculation as to the possibility of another attempt to overthrow the Government by means of an invasion, as in 1947 (see YEAR BOOK, Events of 1947, page 138).

Propaganda and Achievements. The administration intensified its propaganda campaigns in order to win the support of the outside world—especially the United States—and Trujillo's paper, *La Nación*, carried stories featuring achievements of the Government. The nation's economy profited from export increases, and new government projects were inaugurated, while various old ones were completed. Among administrative developments, one of the most important was the creation of a Secretariat for National Economy, set up to control various fields of industry and foreign and domestic commerce. This new department of Trujillo's machinery is the official licensing agency for sugar exports, and imports of some essential products. It will also control the issuance of bank drafts, thus strengthening still more the President's hold on the country's economy.

An important government project was the beginning of the University City in the old Universidad de Santo Domingo, at a cost of \$2 million. Another was the erection of a \$1 million Institute of Agriculture at San Cristobal, to systematize all phases of agricultural instruction. President Trujillo also announced a 3-year bridge-construction program to replace all wooden bridges with modern concrete ones.

International Politics. External affairs were characterized by the open antagonism of the peoples of Venezuela, Costa Rica, Guatemala, and Cuba against the Trujillo regime. There were rumors of activities of the so-called Caribbean Legion, composed of Dominican exiles residing in those countries, as well as exiles from Honduras and Nicaragua, and the organization of an armed invasion of the island was thought possible. An alliance was reported between Trujillo, Somoza (Nicaragua's "strong man") and Carias Andino of Honduras, to maintain their hold over their respective peoples. In the last days of 1948, Costa Rica was invaded from Nicaragua; some considered it a counter-measure of the Nicaraguan Government to prevent the activities of the Legion, which planned to use Costa Rica as a base to invade Somoza's territory.

The Dominican Republic attended the Ninth Inter-American Conference of American States held in Bogotá in April (see PAN AMERICAN ACTIVITIES), and became signatory to the Charter of the Americas.

—MIGUEL JONÁIN

DUKE ENDOWMENT. The A foundation created by James B. Duke in 1924, known for its connection with Duke University, hospital work, and a number of other activities in the Carolinas. The Endowment is a permanent one with a self-perpetuating board of 15 trustees. Except for the \$17,000,000 spent in erecting and equipping Duke University, it is not authorized to expend any of its principal. A report covering its first 23 years, ending Dec. 31, 1947, showed that the Endowment had distributed and allocated \$71,129,201 as follows: Duke University, \$41,124,286; hospitals, \$20,107,030; Da-

vidson College, \$1,696,792; Furman University, \$1,695,620; Johnson C. Smith University, \$1,192,546; orphanages, \$2,721,628; superannuated Methodist preachers, \$548,601; rural churches, \$1,002,157 for building and \$1,037,447 for operations. Chairman of the Board of Trustees, George G. Allen; Vice Chairman, Norman A. Coker; Secretary, Alex. H. Sands, Jr.; Treasurer, Walter C. Parker. Headquarters: Power Building, Charlotte 1, N.C.

EAST AFRICA HIGH COMMISSION. An interterritorial organization which came into force on Jan. 1, 1948. It replaces the former East African Governor's Conference. The High Commission consists of the governors of Kenya, Tanganyika, and Uganda and administers certain services common to all, chiefly economic and technical.

There is also an East African Central Assembly composed of 10 official and 13 unofficial members. The High Commission has power to legislate with the advice and consent of the Central Assembly in matters relating to interterritorial services. Officers: Sir George Sanford, Administrator to the High Commission; C. C. Spencer, Economic Secretary; J. C. Mundy, Member for Finance; Sir Reginald Robins, Member for Transport; H. C. Willbourn, Postmaster General. Headquarters: Nairobi, Kenya.

EASTERN ORTHODOX CHURCHES. There are in the United States 11 different bodies of the Orthodox church, with a total membership of 711,287. Two major groups, the Greek Orthodox Church (Hellenic) and the Russian Orthodox Church, account for about 600,000 of the total members.

Greek Orthodox Church (Hellenic). The Greek-speaking Orthodox Christians have had scattered parishes in the United States for the last 70 years. They were first under the jurisdiction of the Metropolitan of Athens, later under the Patriarchate of Constantinople. Political changes in Europe have been reflected in all branches of the Church in the U.S. Considerable unity and order resulted from the 1931 convention in New York, under the presidency of Archbishop Athenagoras. The Greek Archdiocese of North and South America has 300 churches, 325 priests, 275,000 reported members, and 500,000 communicants. Its many educational institutions has an enrollment of 25,000 students, and 200 persons are cared for in its 3 benevolent institutions. Headquarters, 10 East 79th St., New York 21, N.Y.

Russian Orthodox Church. Entering Alaska in 1792, before its purchase by the United States, the Russian Orthodox Church moved its headquarters to San Francisco in 1872, and to New York in 1905. Total membership in the United States, 300,000 (1947). Metropolitan of America and Canada, Most Reverend Theophilus Pashkovsky. Headquarters, 59 East Second St., New York 3, N.Y.

ECUADOR. A republic of South America. It comprises three natural regions, the coast, the Andean highlands, and the Amazon. The climate is tropical in the eastern lowlands and the Amazon region, intermediate in the plateaus and cold in the highlands.

Area and Population. The exact area has not been determined due to unsettled boundary claims, but it is estimated at 175,855 square miles, including the Galápagos Islands. Population: 3,400,000 in 1947 (54 percent mestizos, 27 percent Indians, 8 percent of European descent and 11 percent of other ethnic groups). Chief cities: Quito (capital),

211,174 (1947); Guayaquil, 81,893; Cuenca, 53,871.

Education and Religion. Freedom of worship is guaranteed in the constitution. Roman Catholicism prevails and Spanish is the official language, although the Indians speak the tongues of their ancestors. About 40 percent of the population is literate. According to the census of 1947, there were 3,189 elementary schools with 284,052 students; 156 secondary schools with 19,418 students; 66 institutions of intermediate training (normal schools and "schools of humanities") with 11,843 students, and four universities.

Production. The principal lines of agricultural production in 1946 included rice, 2,219,000 quintals (46 kilos each); coffee, 7,360,000 kilos; cacao, 803,000 quintals of 100 pounds each; rubber, 1,327,000 kilos and tagua nuts, 12,531,000 kilos. Mineral production for the same year: gold, 75,390,000 troy oz.; petroleum, 97,647,000 U.S. gal.; kerosene, 12,271,000 U.S. gal.; silver, 24,073,000 troy oz. The monthly production of crude petroleum in 1947 was estimated to total 25,900 metric tons.

Foreign Trade. Total imports in 1947 amounted to 604,400,000 sucres (a sucre equals \$0.07 U.S. currency). The chief buyers from Ecuador are the U.S., Jamaica, Cuba, Venezuela, Colombia and Panama; the chief suppliers are the U.S., Argentina, Great Britain, Colombia, Canada and Costa Rica.

Transportation. Ecuador has 800 miles of railways and about 4,500 miles of all types of roads. The most recent data on motor vehicle registration indicated a total of 5,898. There is international air service provided by foreign companies and a few national airlines connect the larger cities in the country. Ecuador has about 30,000 radio sets and 7,100 telephones.

Finance. In 1948 the budget receipts and expenditures were estimated to balance at 385 million sucres. At the end of September, 1948, currency in circulation amounted to 338 million sucres. Bank deposits on Aug. 30, 1948, totaled 313 million sucres. The public debt on Nov. 30, 1947, was: internal—112,943,000 sucres; external—\$37,595,000. (The sucre was worth U.S.\$0.0741, Central Bank—official, on Oct. 11, 1948).

The Central Bank of Ecuador maintains a cost-of-living index based on market prices at Quito of certain staple foodstuffs. At the end of September, 1948, the domestic debt to the Central Bank was reduced to 65.7 million sucres, against the high of 153.1 million at the end of 1946. The money supply, however, was 656.6 million against 588.7 million at the end of January, 1948. Net gold and foreign exchange resources were 306.8 million sucres (\$24.1 million).

Government. Under the constitution of Dec. 31, 1946, Ecuador is a centralized republic of 17 provinces. Legislative power rests in two chambers (upper and lower). The Senate is composed of two Senators for each province of the Sierra and the Litoral, one from the rest of the provinces, and several functional senators designated by business and professional groups. Deputies are elected by the provinces in the proportion of one for every 50,000 inhabitants. Executive power is exercised by a President elected for a four-year term. On June 6, 1948, Galo Plaza Lasso was elected President and took office on August 31.

Events, 1948. The different political parties started early in the year to get ready for the presidential campaign. The Liberal Radical Party formed a coalition with the Socialist Party, and together

nominated General Alberto Enríquez Gallo, ex-president of the republic, as their presidential candidate. Dr. Gallo is a member of the Liberal Party. The Conservative Party nominated Dr. Manuel Eliseo Flor Torres, and the new independent party, called the Civic Democratic Movement, nominated Galo Plaza Lasso.

Elections. On June 6, the elections were held in an orderly manner, and candidate Galo Plaza obtained a majority of 3,867 votes over his nearest opponent, Dr. Flor Torres. The increase in the number of voters was noteworthy, 300,000 having cast their ballots as compared with only 82,000 in the 1940 elections. On July 10, the President-elect came to the United States for medical treatment, but in political circles it was rumored that his real purpose was to get the International Basic Economic Corporation, through his friend Nelson Rockefeller, to help toward the industrial development of Ecuador, and to obtain a loan.

The Gran Colombia Conference. The elections did not stand in the way of the celebration in Quito of an important economic conference, in which delegates from Ecuador, Colombia, Panama, and Venezuela participated. The preparatory sessions were held from May 24 to June 5, and on June 24 the official sessions of the conference were inaugurated. The results were a step forward in the defense of the economies of the countries involved, and the Quito Charter was signed on August 9, setting the bases for the establishment of a customs union between the participating nations.

Presidential Inauguration. On August 31, Galo Plaza Lasso took over the presidency of the republic, with Manuel Sotomayor as Vice-President. The new president announced a progressive program of government, and the people appeared to be hopeful of success.

International Front. Ecuador participated in the Ninth Conference of American States held in Bogotá, Colombia in April (see PAN AMERICAN ACTIVITIES). In international circles, there were favorable comments on the special delegation sent from Peru for the inauguration of the president, which was thought to indicate that future relations between the two countries might be better than in the past.

—MIGUEL JORRÁN

EDUCATION. In a year characterized by growing international tensions throughout the world and by several full scale wars, the educators of many countries continued with unabated vigor their efforts through educational means to improve the conditions for peace.

UNESCO. Disregarding various proposals that the third General Conference of the United Nations Educational, Scientific, and Cultural Organization scheduled to be held in Lebanon, should be postponed or should be held in some other place, the organization decided in an extraordinary session in Paris on September 15 to go ahead with the plans for the third general session. The third session of the General Conference opened in Beirut, Lebanon, on November 17 and continued its work into December.

During 1948 UNESCO sponsored conferences, seminars, and other meetings of many educational, scientific, and cultural organizations. Among the most important of these for education were the three summer seminars held for teachers from many countries in the fields of teaching about the United Nations, teacher education, and childhood education. These three seminars were held respectively at Lake Success, in England, and in Czechoslovakia.

Immediately before the formal opening of the Beirut conference, representatives of 28 national commissions of UNESCO and of persons concerned with setting up of national commissions in member states which do not now have such organizations met in Lebanon to discuss the role of national commissions and national cooperating bodies in relation to their governments and to the secretariat of the UNESCO and to report on the 1948 programs of the national commissions.

Educational Reconstruction. The Commission for International Educational Reconstruction, planned and operated a program of study and travel for a group of educators from 17 war-devastated countries of Europe and Asia, with financial aid from cooperating national organizations in the United States. A chief feature of the program was a Seminar in International Education conducted for one month in July and August at the University of Maryland. The American Association of Colleges for Teacher Education, The American Association of University Women, The Association for Childhood Education, The American National Red Cross, The Campaign Education Association, The Department of Classroom Teachers of the National Education Association, The Michigan Education Association, and The Ohio Education Association contributed to the expenses of the foreign teachers and helped formulate the program of travel and study.

The Overseas Teacher-Relief Fund of the National Education Association collected more than \$276,000 for the year 1947-48. Countries receiving aid from the fund were Albania, Austria, Belgium, Bulgaria, Burma, China, Czechoslovakia, Ethiopia, Finland, France, Germany, Greece, Hungary, Indonesia, Italy, Japan, Korea, Luxembourg, the Netherlands, Norway, the Philippines, Poland, Siam, the United Kingdom, Corfu, Guam, Malta, and Okinawa. The money was expended for CARE packages, for books, for surgical instruments, and for scholarships. In deciding to continue this program of assistance to teachers in other countries, the National Education Association announced plans to bring teachers from other countries for short visits to observe schools and to get acquainted with teachers in the United States.

Fulbright Act. Agreements providing for educational exchanges under this act were signed by Dec. 1, 1948, with nine countries: Belgium and Luxembourg, Burma, China, France, Greece, New Zealand, the Philippines, and the United Kingdom. Agreements were being considered with the following countries: Australia, Austria, Egypt, India, Iran, Italy, the Netherlands, the Netherlands East Indies, Norway, Pakistan, Siam, and Turkey. Since the only funds made available by the act were in foreign currencies, each American participating in the program had to make his own individual arrangements for such dollar balances as he required to meet obligations in the United States during his absence from the country.

International Book Exchange. On September 1 a new national office for the exchange of books and periodicals between the libraries and scientific and educational institutions of the United States and other countries was established in the Library of Congress. This organization, The United States Book Exchange, handled only printed matter of scientific or literary character.

Higher Education. The Report of the President's Commission on Higher Education, published early in the year, created wide discussion. Chief among the Commission's recommendations were a proposal of Federal grants-in-aid to individual needy

students in their last two years of high school, a federally supported program of scholarships at the undergraduate level in all types of higher education, and a federally administered plan of fellowships for graduate study. The Commission envisioned a need for 350,000 faculty members in 1960 for the 4.6 million students who should be in the colleges and universities by that time. The estimated cost of education given in the publicly controlled institutions of higher education in 1960 was \$2,727,500,000. The Commission assumed that the Federal Government would contribute heavily toward this cost.

Federal Aid to Education. The National Education Association, local and state educational associations, many individual civic and professional leaders, and numerous organizations of men and women in various groups carried on a vigorous and highly effective campaign for Federal aid to education. For the first time a president of the United States recommended in his State of the Union messages to the Congress the urgent need of such legislation. A bill authorizing \$300 million of Federal funds each year for the purpose of more nearly equalizing educational opportunities and for building a minimum public school program for the youth of the nation was passed by the Senate by a vote of 58 to 22, was favorably reported by a House subcommittee, was extensively supported by the press and the radio, but was blocked by the House majority leadership which refused to allow the bill to come to a vote in that chamber. Under the same Congressional leadership appropriations for European Federal aid were made with \$365 million earmarked for tobacco and about \$70 million specified for liquor.

Teacher Supply and Demand. The National Commission on Teacher Education and Professional Standards of the National Education Association reported that only 72 percent as many college and university students were completing standard certificate requirements for elementary teaching in 1948 as had completed the requirements in 1941. The comparable figure for high school teachers completing standard certificate requirements in 1948 was 90 percent of those in 1941. In certain high school teaching fields, however, supply had already achieved balance with demand by 1948. The situation in the elementary field was very serious. It was generally estimated that the country would need about 100,000 new elementary teachers annually for the period 1948-1958. The colleges which prepared elementary teachers in 1948 graduated about 20,000 students, of whom less than 12,000 were 4-year college graduates. More than 4 million children of school age in the United States in 1948 were not enrolled in any school. More than 8 million persons, 14 years of age and older, had less than a fifth-grade education, and almost 3 million of these persons were illiterate.

Teachers salaries at the beginning of the academic year 1948-49 appeared to show a much smaller annual increase than in the previous year. According to estimates of the United States Office of Education, based on statements from State Departments of Education, 13 states expected no salary increase on the average during the coming year. Twelve states predicted some increases and 21 states expected an approximate increase of 8 percent over those in effect in the academic year 1947-48. In 1947-48 the average increase in teachers salaries over 1946-47 was approximately 21 percent in a total of 43 states reporting.

In 1948, furthermore, a decided slackening of the wave of resignations from teaching positions

was noted. For the year ending June, 1948, only half as many teachers resigned from the New York City school system as in either of the preceding two years.

Various teacher education institutions and organizations studied the problem of recruitment of teachers and made attempts to interest high school and college students in teaching as a profession. The School of Education of the University of Indiana, in a bulletin by Richey and Fox, reported that freshman students were more likely to decide to enter teaching when they were older, men students, men who had been in the armed services, younger women students, women from rural areas, villages, and large cities rather than from small cities, men from rural areas, villages, and small cities rather than from large cities, students whose parents were in the lower income bracket, students who had attended small high schools, students whose fathers were farmers, skilled or unskilled laborers, or school teachers or administrators, and students who had had previous experience of a teaching nature. The students who had decided not to enter teaching gave as their reasons poor salaries, lack of appeal in the profession, and the restricted personal life and limited social contacts of teachers. The College of Education of Ohio State University issued a recruitment booklet which described the jobs available to teachers, gave an account of the shortage in the field, and discussed the advantages of teaching. The American Association of Colleges for Teacher Education issued a statement by its president, Walter Hager, pointing out the great career opportunities which will be offered to the teaching profession during the next decade.

Curriculum. The American Automobile Association reported that in 1948, 238,000 students completed driver-training courses in high school compared with 70,000 in 1947. States listed by the Association as having made progress in the promotion of driver education were North Dakota, Wisconsin, Illinois, Massachusetts, New Jersey, Virginia, West Virginia, Arizona, and Delaware.

The Classical Association of the Middle West and South began an experiment with Latin teaching based on the 2-year course on the *Aeneid* which was expected to feature a greater emphasis on the study of Latin culture and a lesser emphasis on language structure.

Along with the Zeal for Democracy program sponsored by the United States Office of Education, were many developments in social studies teaching in the schools. Emphasis in many schools was placed on a new attention to the study of democracy and its competitors, the ideals and principles of American democracy, the relationship of American history and politics to those of other countries, and education for world understanding.

In many high schools of the country a new emphasis was placed on the study of home and family living. Courses for boys as well as for girls were established to include study of family finances, budgeting, mental hygiene problems, and child development.

Professional Relations. Accompanying the activities of the House Committee on Un-American Activities, various state and local agencies hunted assiduously for "red" elements in teaching staffs. The Ohio State University adopted a new requirement that each member of the faculty must sign an affidavit that he did not belong to any political party or organization which advocated the overthrow of either the Federal or the State Government by force or violence. Investigation of various teachers' organizations, notably those affiliated with

labor organizations, was made in various parts of the country. The CIO teachers' local in New York City was investigated by a sub-committee of the House of Representatives Committee on Education and Labor. Teachers were discharged in various parts of the country for being members of the Communist Party, although a vigorous minority protested that so long as the Communist Party was legal, membership in it was not a sufficient cause in itself for dismissal of a teacher.

The Commission for the Defense of Democracy through Education of the National Education Association investigated numerous cases of reportedly unfair dismissal procedures employed by school boards against teachers and administrators. One of the most notable of these cases was that in which the Board of Education of Chandler, Arizona, dismissed 5 teachers without explanation, charges, or hearings. In a widely circulated report on this case, the Commission took the position that it was unprofessional for a school board to operate without a carefully organized procedure of fair dismissal to which the board scrupulously adheres.

Federal Legislation. The educational legislation passed by the 80th Congress of the United States was fairly small and inconsequential. The Lanham Act was amended in minor administrative details. The secretaries of the three armed services were authorized to donate obsolete or surplus property to educational institutions. Minor clarifying amendments were made to the law commonly called the GI Bill of Rights. Federal legislation most directly affecting education was the Selective Service Act of 1948. This Act had provisions for the deferment from service, under certain conditions, of high school and college students and authorized the President to provide for the deferment of other groups of students when appropriate.

During the fiscal year ending June 30, 1948, the Federal Government spent more than \$2,000 million for the education and training of veterans. It also gave about \$500 million worth of surplus property to schools and colleges, and the usual regular Federal appropriation for the support of Land-Grant colleges (\$5,030,000), agriculture experiment stations (\$8,950,000), vocational education in the public schools (\$25 million), vocational rehabilitation (\$18 million), and school lunches (\$54 million).

—HAROLD BENJAMIN

EDUCATION, U.S. Office of. For the purpose "of collecting such statistics and facts as shall show the condition and progress of education . . . and of diffusing such information . . . as shall aid the people . . . and otherwise promote the cause of education . . ." the Office of Education was established. Accordingly the Office had developed a variety of supporting services to aid the schools and colleges of the Nation.

In addition to the publication of statistics and facts collected, the divisions and staff members of the Office serve in a consultative capacity. Although not operating educational systems or institutions, the Office has relationships with agencies that do operate educational systems and institutions. In this sense, therefore, developments in American education are somewhat keyed to the work of the Office of Education; and conversely, the emphases of the Office mirror the problems and achievements of American education.

Enrollments. The concern about increases in school enrollment derives from two major trends: (1) the increased birthrate during the 40's, and (2) the re-entry of veterans into educational systems and institutions, stimulated by the GI Bill benefits. The

first has only begun to affect the schools in the elementary levels, but is of long-term significance. The latter is of primary concern to institutions of higher education. See *SCHOOLS, U.S.; UNIVERSITIES AND COLLEGES*.

Plant. Plant needs are extremely serious in view of (1) deferred maintenance and expansion, (2) increased building costs, and (3) increased demand. The Office of Education has estimated that public and nonpublic elementary and secondary educational plant needs were about 7,500 million dollars late in 1947, and of colleges and universities, totaling about 3,500 million dollars.

Federal Legislation; Court Decisions. A number of bills relating to education became public law during the year, among them three measures to facilitate the disposal of surplus properties for educational purposes. In passing the National Selective Service Act of 1948, Congress provided for deferment from military service of high school and college students under certain conditions, and authorized the President to provide for the deferment of other categories of students.

Supreme Court decisions affecting education among the several States included the following: (1) The New Jersey case holding that the use of public tax funds by school districts for paying the transportation of children attending parochial schools was not in violation of any provision of the Constitution of the United States; (2) The decision holding that the State of Oklahoma, in conformity with the fourteenth amendment, was required to provide qualified Negro applicants with professional legal education equal to that afforded by the State institution for white students; (3) The decision rendered in the case of *McCullum vs. the Board of Education in Champaign, Illinois*, holding that sectarian religious instruction on public school premises during school time was not permissible under the first amendment of the Constitution.

Rural Education. Primarily because of financial limitations, small school units, common in most rural areas, cannot offer the range of educational services considered necessary today. Consolidation, however, is not the whole answer. To meet present-day needs more adequately, rural schools are forced to develop other ways of broadening their services. Sometimes this is done through sharing teachers on a part time basis with other schools.

Children of migrant workers are another cause for concern in rural areas. This subject has been studied at length by a committee representing several Federal agencies, the recommendations of which were placed before the Congress for its consideration.

Science in Education. The understanding of science has assumed new proportions as a requirement in American education from elementary through college levels. The new emphasis is in part related to an understanding of national security and world politics. In elementary grades, children learn principles of the scientific method by conducting simple experiments. In secondary schools, the students learn about the inductive and the deductive methods, and the many techniques used by scientists. This general approach is quite aside from application of science as studied in many vocational courses.

Aviation Education. The emphasis on aviation education, especially in the secondary schools, is aimed at (1) holding and improving the technical position of the nation, and (2) bringing about understanding of national and international problems in light of progress in aviation.

Significant Trends in College Curricula. Noticeable

in the development of college curricula is an increase in programs of general education. In the preparation for various professions, more emphasis is being placed on general education, especially the social sciences. This is true for example in such diverse fields as engineering, journalism, and librarianship. The broad effect is to devote more of the undergraduate years to general education, thereby requiring that technical phases of professional preparation be gained in graduate programs, as happened earlier in medicine and law.

Zeal for American Democracy. The Office of Education, in giving leadership and stimulation to the Zeal for American Democracy program, has worked with and through the States in a service relationship. The main emphasis has been upon increasing in the States the awareness of the need for improved citizenship education and bringing to them examples of ways in which such improvement might be accomplished.

Teachers. The supply of teachers is not uniform among various school levels and subject fields. In general the shortest supply is at the elementary level. Here the condition is not improving, nor are there prospects for improvement during the coming year. Shortages also exist in certain subject fields in secondary education, especially in home economics.

Teacher Education. Problems of teacher education center on the preparation of more than 90,000 teachers annually, improvement in qualifications of several hundred thousand teachers in service, the extension of the body of professional subject matter, and the improvement of procedures in teacher education.

The Office staff in teacher education assisted during the year in solving these problems in cooperation with institutions approved for the education of teachers; with State departments of education; with local schools and school systems; with national, regional, State, and local school organizations; and with other agencies.

Education of Negro Leaders. Because of the growing interest in the education of Negro leaders, the Office of Education in 1947-48 undertook a study of the problem, and a publication based thereon was completed.

Citizens Federal Committee on Education. Two years ago the Citizens Federal Committee on Education was organized to advise the Office on the broad national aspects of educational problems. One of its first tasks was to present the facts about the crisis in education to the American people. Through the intensive services of the Advertising Council of America—a public service organization representing all phases of the advertising business—the Committee continued during the past year to foster its highly successful nationwide "Improve Our Schools" campaign.

Health Services. School health services received increasing attention from a large number of sources, both educational and noneducational during 1947-48. The National Health Assembly held in Washington in May, 1948, made these, among other recommendations: That a national conference on school health be called; that similar State Conferences be called; that local full-time public health units be sponsored because of the contribution they can make to the health of the school age child; that teachers be better trained in functional health and physical education; that the mental hygiene program be extended.

Library Services. At present, the United States is served by 7,500 municipal and county public libraries, 1,700 college and university libraries, and

more than 20,000 centralized school libraries, exclusive of innumerable classroom collections. In addition, there are some 250 Federal and State libraries, and at least 1,500 specialized libraries serving the business, industrial, financial, and technical concerns.

Veterans' Educational Facilities. The Federal Security Agency, through the Commissioner of Education, and the Federal Works Agency were authorized by Congress to provide buildings and equipment from war surplus materials when they were needed to provide education for veterans. These agencies established the Veterans Educational Facilities Program which had, to June 30, 1948, provided to schools and colleges more than 100 million items of equipment, which had a War Assets Administration fair value of \$114,665,000, an amount that provided \$74 worth of equipment for each veteran enrolled.

This program also provided classrooms, laboratories, and other instructional facilities to the extent of 17 million square feet, for which the Federal Government expended approximately \$75,000,000. Even larger sums have been expended by the Public Housing Administration to build and equip residential facilities for veterans engaged in programs of education and training. These emergency programs will provide, however, for only approximately 11 percent of the space college administrators say they need to combat the shortage.

GRANT-IN-AID PROGRAMS

Vocational Education. Total enrollments for 1947-48 in the federally aided program of vocational education, when State reports are finally tabulated, are expected to exceed the previous peak enrollment of 2.6 million in 1941-42. After the passage of the George-Deen Act in 1936, authorizing a substantial increase in funds for allotment to the States for the further development of vocational education, enrollments increased annually until 1941-42. During the war years, total enrollments receded to slightly more than 2 million. During those years, however, the vocational schools were being used to capacity in training war production workers. After the conclusion of the war, enrollments started to climb again until in 1946-47 they had passed 2.5 million. Further increase is expected, in part as a result of the passage of the George-Barden Act which authorized additional funds for allotment to States and Territories.

The amount of Federal funds made available for allotment to the States for vocational education during fiscal year 1948 increased by more than \$5 million. This was due to the increase in the appropriation under the George-Barden Act, the first important increase in the amount of Federal funds available for allotment to the States since 1939.

Agricultural Education. Owing to a world-wide shortage of food and the need for heavy exports of food and feed to depleted areas of Europe and Asia, the production and conservation of food were emphasized in agricultural classes for adult farmers. School-community canneries, operated under the supervision of teachers of vocational agriculture and home economics, enabled thousands of families to conserve a supply of food for their families.

Membership in the Future Farmers of America, the national organization of students of vocational agriculture in public secondary schools, increased during the year roughly from 240,000 to 260,000. The New Farmers of America, an organization similar to the F.F.A. for farm boys in high schools for Negroes, likewise completed a successful year.

Membership in the N.F.A. increased roughly from 24,000 to 26,000.

Distributive Occupations Education. As a result of an increase in the demand for training programs suited to the needs of proprietors and employees of small business enterprises, State Boards for Vocational Education in California, Illinois, Kentucky, New Jersey, New York, Texas, Virginia, and other States sponsored training courses for these groups. Such courses recently were introduced into some 30 vocational schools in New York City. New York University, Syracuse University, the University of Houston, Ball State Teachers College, Mississippi Southern College, and a number of other institutions of higher education are now offering training for men and women engaged in small businesses.

Home Economics Education. In 1948, approximately 1 million youth and adults were attending home economic classes in schools reimbursed from Federal vocational education funds. Home economics has moved from its restricted definition of cooking, sewing, and housekeeping to a comprehensive one built around homemaking and community responsibilities centered in the family.

During 1946-47 the Trade and Industrial Education Service worked with the Union Pacific Railroad and the representatives of a number of States in the preparation of instructional material to be used in the training of apprentices in six railroad shop crafts.

Occupational Information and Guidance. Alabama, Arizona, Florida, and Tennessee, made provisions for State programs of Occupational information and Guidance services during the current year. In addition to these States, 41 States rewrote State plans inserting provisions for guidance services under the George-Barden Act.

Land-Grant Colleges and Universities. The Office of Education carries on the activities related to the Federal administration of the appropriations for the land-grant colleges and universities made in accordance with the Second Morrill Act and supplementary legislation. The Office prepares and publishes an annual report on these institutions; the most recent of these reports is for the fiscal year ended June 30, 1947. The land-grant colleges and universities in the fall of 1947 enrolled 458,759 students, which was approximately 20 percent of the students enrolled in all the colleges and universities of the United States.

EDUCATIONAL RELATIONS WITH OTHER NATIONS

Foreign Student Influx. Although the shortage of dollar credits prevented many foreign students from coming to the United States, approximately 21,000 students from all parts of the world were enrolled in American institutions of higher education during the academic year 1947-48. This was an increase of about 4,000 over the figure for the preceding year. A majority of the foreign students were studying in the various scientific and technical fields in which postwar American education has assumed leadership.

Interchange Programs. During the year 1947-48, 126 teachers from the United States exchanged places with 126 teachers from Great Britain. They were from all levels of education from nursery-kindergartens to teachers colleges. The British teachers were placed in 31 different States. Among these teachers, 85 were placed in elementary schools and 41 in secondary schools. An interchange of teachers between this country and Canada was also made this year. During the year there was also developed a program for interchanging teachers between this country and France.

The Fulbright Act. In full operation, the program will make available approximately \$8 million in foreign currencies for study, teaching, research, and other educational activities. Grants to United States citizens may include the payment of tuition, salaries, maintenance, travel, and expenses incidental to educational work. Only transportation costs may be granted to citizens of participating countries who wish to come to the United States under these programs. (See EDUCATION; SCHOOLS, U.S.; UNIVERSITIES AND COLLEGES.)

EGYPT. An Arab constitutional monarchy in north-east Africa.

Area and Population. Area: 386,198 square miles, of which over 9,000 are cultivated (along the Nile valley and delta, and oases) and over 3,000 more cultivable, the rest being desert. Population: over 19 million. Chief cities: Cairo, (capital) more than 2 million; Alexandria (port) close to 1 million. With one of the world's highest population densities Egypt has one of the highest birth rates, 40 per thousand, and one of the highest death rates, 26 per thousand. Over 90 percent are Moslem, mostly Sunni, and 9 percent are Christians, with Copts predominating.

Education. Education is free and compulsory for all children from 7 to 12. An extensive program of government-financed study abroad is facilitated by 7 Education Offices abroad, including one in Washington. The intensified literacy campaign resulted in 600,000 additional literates in 1948.

EDUCATION ESTIMATES - 1947-48

	Schools	Pupils
Elementary schools.....	5,700	2,000,000
Efficiency classes.....	200	70,000
Sec. and technical.....	630	29,000
Comm., agric., teaching and other institutions.....	000	70,000
Foreign schools incl. American University at Cairo.....		21,500
Universities (Fouad I and Farouk I)...		9,000
People's University (13 centers).....		10,000
Al-Azhar (Moslem Center).....		2,000
Students abroad (800 at govt. expense).		

Source: Egyptian Education Office.

Communications. The railway system (chiefly state-owned) comprises almost 9,000 miles. Rivers and canals are extensively used for transport. Of the 12,000 miles of roads few are good. Strategically located, with a favorable climate, Egypt is a center for air routes connecting three continents. In addition to the recently formed Saïde Airlines the (Egyptian) Misr Airways operates internal and Near Eastern lines. There are radio, telegraph, and telephone facilities operated by the government. See SUEZ CANAL.

Production. Almost all the cultivated land is irrigated, with an average of one and a half crops a year. Chief crop is cotton (850 million lb. in 1948 compared with 620 million lb. in 1947); then sugarcane, maize, wheat, rice, millet, and barley. The spring 1948 upsurge in cotton prices was followed by an autumn drop forcing consideration of limiting cotton acreage again. Industrial production increase is indicated by the following: In 1948's first quarter cotton factories reached a record monthly average of 13.4 million square meters as against 12.3 million in 1947. For the first time low grade cotton textiles were exported (6,000 tons to the Near East).

Food processing output increased from 400 tons of canned meat and fish in 1939 to 20,000 tons in 1945. The capacity of chemical factories in 1945 was almost double that of 1939. Electrical output is estimated at about 600 million kw yearly com-

pared with 300 million in 1939; the Asswan hydro-electric project is expected to increase it to 2,000 kw yearly. Although oil production is small, wells drilled in the Sinai Peninsula show promise. Egypt's growing film industry is the largest outside Europe and the United States. In September a new Ford plant was started. The first example of substantial American investment was the completion of a rayon plant built and directed by an American firm.

Foreign Trade. Main exports are raw cotton and its by-products (80 percent), foodstuffs, non-processed animal products, phosphates, tungsten, manganese, and mineral oils. The only important manufactured item is cigarettes. Imports include textiles, automobiles and other machines, industrial raw materials, fertilizers, and foodstuffs unobtainable locally. In 1947 total exports amounted to £££ (Egyptian pounds) 89.5 million (chiefly to India, Italy, the United Kingdom, and France) and imports to £££99.6 million. The United Kingdom provided 22 percent of the imports and the United States 11 percent. In the first nine months of 1948, for the first time since 1937, Egypt experienced a favorable balance of trade, chiefly due to the increase in cotton sales. However, both exports to and imports from the U.S. for January-June, 1948, declined from the January-June, 1947, levels.

Finance. The revised Egyptian state budget for 1948-9 was the highest on record, with estimated expenditure of £££183.4 million and revenue of £££111.5 million, the deficit to be covered from the General Reserve Fund and a public loan of £££30 million to cover Palestine military expenses. The 1948 public debt was £££125 million. Notes in circulation in November totaled £££153 million, an all-time high. Although the high cost of living dropped somewhat in 1947, it rose to 280 (1937 = 100) in November. In January a new Anglo-Egyptian Financial Agreement provided for release to Egypt of £££32 million (sterling) from Egypt's blocked holdings, of which 6½ million is convertible into dollars. In December negotiations were started to determine the 1949 amounts. The 1947-48 exchange rate of the Egyptian pound was \$4.127.

Government. The monarchy is hereditary in the male line, King Farouk I having ascended the throne in 1936. The 1923 constitution provides for a Parliament consisting of Senate and Chamber of Deputies. Two-fifths of the former are appointed by the King and the rest elected for 10-year terms. The 204 deputies are elected by universal male suffrage. The Council of Ministers, appointed by the King, is responsible to the Parliament. Civil disputes relating to marriage or inheritance are decided in religious courts. Other cases involving Egyptians are decided before national courts. By the 1937 Montreux Convention the Mixed Courts are scheduled to disappear in 1949. After that foreigners will be subject to the same judicial treatment as Egyptians.

Events, 1948. The United Nations General Assembly elected Egypt a non-permanent member of the Security Council for 1949. Work started on a U.S. Navy Medical Research Center in Cairo for joint research by American and Egyptian scientists. Negotiations proceeded with the Soviet Union for trade exchanges with barter of some Russian wheat for Egyptian cotton completed. Trade agreements for exchanges of goods were signed with bizonal Germany, Switzerland, and France.

Relations with Britain. Two points of difference appeared far from solution. The British Ambassador announced in October that the international situ-

ation prevented Britain from withdrawing her remaining troops, as the Egyptians were anxious to have her do, the provisions of the 1936 Anglo-Egyptian Treaty notwithstanding. Following rejection by the Egyptian Senate's Foreign Affairs Committee of British proposals for Sudanese administration and the breakdown of talks, the British announced in June that Sudan's Governor-General was free to proceed with the Sudanese self-government project. Egypt did not accede to London's ordinance creating an executive council and legislative assembly in the Sudan. See ANGLO-EGYPTIAN SUDAN.

Economic Development. The Prime Minister's speech in November reaffirmed government plans for development projects, including the Asswan hydro-electric project, railroad and road construction, irrigation, agricultural research centers, and measures for health, education, and social reform. The Undersecretary of State for Industry stated that industrial development depended on encouraging foreign investment and using foreign-expert assistance. The Asswan Dam project, started by Swiss contractors, had to be suspended in July because of a shortage of Swiss francs but negotiations proceeded for bartering cotton. Plans were under way to stimulate the export to hard-currency countries of products other than cotton. The Alexandria Futures Market issued a new regulation that every broker, jobber, or head clerk had to be an Egyptian national.

Palestine Problem. See ARAB LEAGUE AFFAIRS, PALESTINE. As an active participant in Arab League discussions Egypt made certain attempts at economic boycott of Israel; government interference with shipping destined for Palestinian ports was accelerated. In May the Egyptian Senate approved armed intervention. A note was despatched to the UN Security Council notifying it of the invasion by two Egyptian columns "to restore security." By the year's end the invasion had been roundly repulsed by smaller but better-trained and equipped Israeli forces. Egypt was active in UN proceedings on the matter.

The year was marked by a series of demonstrations, primarily by students, starting with the UN's partition decision. First in 1948 was by 4,000 Cairo students against the United States and the Soviet Union for actively supporting partition. Over the year two attempts were made on the life of Mustafa Nahas Pasha, former Prime Minister and Wafd Party leader. In November the Secretary General of the Moslem Brotherhood, inflammatory and reactionary organization, was temporarily arrested. In December dissatisfaction with Palestine developments reached a climax. Three days of student rioting followed the assassination of Cairo's police chief. The government, directly accusing the Brotherhood, ordered its dissolution. On December 9 Prime Minister Nokrashy Pasha was reported pleased over "the quietest day of the week." He issued a military order barring students from all non-government-approved organizations. On December 28 he was shot by a student member of the Brotherhood. Nokrashy's fellow-Wafdist, Ibrahim Abdul Hadi, was appointed Prime Minister and Military Governor General and issued a military order to curb terrorism.

—DOROTHEA SEELYE FRANCE

EIRE (Ireland). A sovereign, independent state, designated as a republic in the Republic of Ireland Bill 1948, and, as such, no longer associated with the British Commonwealth of Nations. Eire includes the 26 counties of Southern Ireland formerly

called the Irish Free State. In 1937 the name was officially changed to "Eire" in Gaelic and "Ireland" in English.

Area and Population. The area of the 26 counties is 27,137 square miles. Population (1946 census): 2,953,452. Chief cities: Dublin (capital), 506,635 inhabitants; Cork, 75,361; Limerick, 42,987; Waterford, 28,332.

Education and Religion. Elementary education is free and compulsory. The Irish language is required in the national schools. Secondary schools, which are private, are in many cases religious establishments. There are two universities: the University of Dublin (Trinity College) and the National University of Ireland, which has three constituent colleges. Publicly supported technical schools and agricultural classes are numerous. Total university enrolment in 1946-47, 7,186. Nearly all (94 percent) of the people are Roman Catholics, with the remainder divided among Episcopal, Presbyterian, Methodist, and other churches.

Production. Agriculture and grazing occupy almost one-half of the people and nearly three-fourths of the total land area. Acreage in 1946: hay, 1,935,203; oats, 834,206; wheat, 662,496; potatoes, 387,507. Number of livestock, chief groups on June 1, 1947: Cattle, 3,950,152; sheep, 2,094,057. Value of chief industrial products in 1945: brewing, £13,552,000; grain milling, £12,819,000; tobacco, £12,476,000. Other manufacture is widely diversified.

Foreign Trade. Eire's trade showed an exceedingly unfavorable balance in 1947 and the first half of 1948. The 1947 figures were: total imports, £130,812,000; total exports, £38,802,000; adverse balance, £92,101,000. In the first half of 1948 imports increased and exports decreased, giving an adverse balance at the annual rate of £110,000,000, an all-time record. In 1947 the United Kingdom took 90 percent of Eire's exports and supplied 40 percent of its imports. Imports from the United States rose from £8,476,000 in 1946 to £29,114,000 in 1947, largely because of sizable purchases of coal, wheat, and flour. Chief exports are normally live animals and chief imports manufactured goods and raw materials for manufacture, including cotton and woollen yarns. Eire's trade deficit is met by invisible items, including receipts from foreign investments, immigrant remittances, receipts from tourists (chiefly English), and—of late—drawing on foreign reserves.

Finance. The 1947-48 accounts showed revenue of £65,197,845, giving a surplus over expenditure of £33,177. Budget estimates for 1948-49 placed revenue at £70,508,000 and surplus at £25,000. Public debt on Mar. 31, 1948, was £104,800,000.

Transportation. In 1946 Eire had 2,481 miles of railway and 650 miles of navigable inland waterways. Railways carried 25,502,477 passengers in 1946 and busses 224,011,630. The international air line, Aer Lingus, carried 156,532 passengers in 1947.

Government. Under the Constitution proclaimed on Dec. 29, 1937, the President is elected by popular vote for 7 years. The Oireachtas (Parliament) includes two houses: the Dáil Eireann (House of Representatives) of 138 members and the Seanad Eireann (Senate) of 60 members. Executive power is exercised by the Government, which is responsible to the Dáil. The President, Sean T. O'Kelly, was elected in 1945.

The Prime Minister, John A. Costello, was elected Feb. 18, 1948, after the defeat of former Prime Minister de Valera's Government Party in the general election on Feb. 4, 1948. Costello's inter-party

Cabinet includes Sean MacBride (New Republican) as Minister for External Affairs.

Events, 1948. The election of Feb. 4 was hard-fought. Late in 1947 de Valera had staked his Government on the results of three by-elections to the Dáil. His party (Fianna Fail, or Soldiers of Destiny), lost two of the three; one of them, significantly, to Sean MacBride, leader of the newly formed Clann na Poblachta, or New Republican Party.

In the election Fianna Fail won more than 60 seats, or more than any other single party; but a majority against de Valera was pulled together from groups disunited in almost everything except their wish for a change of government. Fine Gael (United Irish) party, which was fairly conservative, was obliged to join hands with the Republican left, Clann na Poblachta, in order to drive de Valera from the office he had held since 1937. Clann na Poblachta, which won only 10 seats, was nevertheless able to get the Cabinet portfolio of external affairs. Costello, the new Prime Minister, was the leader of Fine Gael, the second largest party.

Coalition Achievements. Costello's election to the post of Prime Minister by the Dáil and the prompt announcement of his Cabinet took place on February 18. De Valera used some of his new-found leisure to make a visit to his native land, the United States. On his first day in New York, March 8, he lunched with Mayor O'Dwyer of New York and on March 9 was given a reception at City Hall.

Costello's Government negotiated a new trade treaty with Britain in June. The four-year agreement, which was signed in Dublin on July 31 by Prime Ministers Attlee and Costello, restored high figures for agricultural exports from Eire to Britain, limited Irish exports of live cattle to other countries to a fraction of those sent to Britain, and fixed favorable prices. Britain promised Eire more coal and automobiles. The agreement offered Irish farmers high and stable prices, and gave the Eire Government some hope of covering a part of its extraordinarily large trade deficit.

The Costello Government also concluded a Marshall Aid agreement with the United States and became one of the first countries to receive assistance. Procurement authorizations for Eire through October 20 were \$4,498,200.

Separation from the Commonwealth. Although Costello said in the Dáil on August 6, when the Anglo-Irish Trade Agreement was unanimously ratified, that Eire wanted both imperial preference and her association with the British Commonwealth of Nations to be retained, it was already clear that he envisaged the repeal of the External Relations Act of 1936. This act provided that so long as Eire was associated with the United Kingdom and the other Dominions the Irish, like the rest, would have the King act on their behalf in appointing diplomatic representatives and concluding trade agreements.

When Costello was in Canada early in September he announced that Eire was about to discontinue the use of the King's signature, and further statements to that effect were made after he returned to Eire. A surprise move at the meeting of Commonwealth Prime Ministers in London October 11-22 was the invitation to Eire's Government from the Canadian, Australian, and New Zealand representatives to come to Britain to talk it over. The meeting took place at Chequers on October 17, with Britain's Prime Minister Attlee also present. Eire sent Sean MacBride, Minister for External Affairs, and Patrick McGilligan, Finance Minister.

Almost no information was released about the Chequers meeting, and observers decided that the other Dominions brought up some knotty questions about continuing trade preferences for Eire after she cut her last link with the Commonwealth. This impression was reinforced when a second meeting of the same Ministers was held in Paris, November 15 and 16, and again no real news was given out.

On November 17 the first constitutional step was taken and the Republic of Ireland Bill, 1948, was introduced in the Dáil Éireann. At the time of the second reading of the bill on November 25 the debate was interrupted by MacBride's announcement of news that was most welcome to the Dáil: that of the decision of Britain, Canada, and South Africa to continue trade preferences and reciprocal citizenship rights after the separation was complete. The most disturbing question still remaining for Eire was the sharpening of the division from Northern Ireland and the decreased chance of Eire's annexing the 6 Ulster counties which were a part of the United Kingdom. On Dec. 21, 1948, the Republic of Ireland Bill was signed by President Sean T. O'Kelly but the final act of proclaiming the republic was delayed until some time in 1949.

ALZADA COMISTOCK

ELECTIONS. See U.S. ELECTIONS, each State article, and articles on countries.

ELECTRICAL INDUSTRIES. The electrical manufacturing industry in the United States continued to show substantial gains during the year over the records that had been established in 1947, but the gains were less than had been registered in 1947 over 1946. Nevertheless, the industry continued in a leading position with a gain of more than 10 percent over 1947 as compared with a gain in total industrial production of somewhat more than 3 percent.

An increase in production of electric appliances of about 30 percent made the best showing, but was a decided decrease from the gain of 120 percent that was recorded in 1947. As appliances became more available following the wartime dearth, consumers again became able to be more selective and to have a definite influence on the industry. Substantial gains were shown by household refrigerators and electric washing machines with sales of 4.5 and 4.3 million units, respectively, as compared with sales of 3.4 and 3.6 million in 1947. However, sales of vacuum cleaners decreased from 3.8 million to 3.4 million.

Next highest increase was shown by transmission and distribution apparatus, which reflected the expansion in the facilities of the electric utilities. Here the index figure, with the year 1940 taken as 100, rose from 250 to 334, but again was less than the 1947 increase from 124 to 250.

Relation of industry data to other significant figures may be shown by relative index figures, with the year 1940 taken as 100. U.S. population was 111 compared with 109 for 1947; sale of electric energy was 203 compared with 184; electrical manufacturing industry production was 300 compared with 270.

Several gas turbine power plants for power generation were under construction in sizes of 3,500 kw and 5,000 kw. Some are planned for the use of fuel oil and others for natural gas. Fuel economy is expected to be competitive with steam plants of comparable size.

Along the lines of more conventional power units, electric power companies in the United States

added about 4 million kw in new generators which included some notable advances. The Public Service Electric and Gas Company of New Jersey placed a 100,000-kw, 3,600-r.p.m., machine in its Essex station which was designed for operation with steam at 1,250 lb. per square inch and 1,000° F. The 23-inch-long last-stage buckets reach a tip speed of 1,390 feet per second, 10 percent higher than previous 3,600-r.p.m. machines were capable of attaining. A few months later the same company installed another 100,000-kw machine in its Sewaren station to operate at a higher temperature. The 3,600-r.p.m. turbine takes steam at 1,500 lb. per square inch and 1,050° F.

Six large Diesel-engine-driven generators were installed by the Mexican Light and Power Company. They were designed for operation at an altitude of 7,450 feet, and each is rated 6,000 kw at 167 r.p.m., is 22 feet in diameter, and weighs 54 tons.

In the United States studies continued on experimental lines operated at 500 kv. A circuit breaker similar to that developed for 500 kv was used in an unprecedented series of switchgear tests in which the maximum short-circuit capacity of the Grand Coulee power plant and the Northwest power pool was interrupted in less than three cycles and the circuit reclosed in less than ten cycles. The 230-kv switchgear units were designed with an interrupting rating of 10,000,000 kva, a great increase over the previous high of 3,500,000 kva.

A new step in high voltage rectifiers was reported in the use of a single 3,000-kw 3,000-volt unit to supply power to mining locomotives in Utah. A battery of 24 high-voltage pumped ignitrons was provided for service on a European railway system, eight of them being arranged as inverters to pump braking energy back into the a-c system.

A railroad gas-turbine power plant was demonstrated and installed for trial in an experimental locomotive. Rating of the power plant is 4,800 h.p. at 6,700 r.p.m. with turbine inlet temperature of 1,400°.

Reports indicated that attention was turned to battery-driven electric automobiles in both England and France with the appearance of vehicles having speeds of approximately 30 m.p.h. and operating for a total distance of 40 miles on a single charge. In Switzerland an experimental model of a railway vehicle was built in which energy is stored in a heavy high-speed flywheel. A motor connected to an outside source of power accelerates the flywheel which then drives the motor as a generator to operate the traction motors until the next stop is reached. A charging time of one minute provides for 6 to 9 miles of travel.

Automatic elevators advanced to a system with an automatic dispatcher which enables from one to four cars to be operating depending on the density of the traffic. A call is answered by the car closest to the call. In answering calls a car automatically reverses at the highest call and automatically answers all corridor calls on the way down.

One of the largest transformers ever built from the standpoint of electrical rating was furnished to the Buffalo Niagara Electric Corporation. Weighing 142 tons, it has a capacity of 110,000 kva. At the smaller end of the size scale were several developments of unusual interest. A single-phase watt-hour meter was introduced in which the rotating element is suspended by small magnets to provide a "bearing" which does not wear and requires no lubrication. The National Bureau of

Standards announced development of a magnetic fluid clutch in which the degree of coupling between the plates is varied by changing the strength of a magnetic field applied to a fluid such as iron powder mixed with oil.

An all-electric camera was developed by the U.S. Navy in which the shutter operates so fast that light travels only ten feet during the time of one exposure. This speed is attained through the use of an electro-optical Kerr cell which is placed between polarizing filters crossed so that no light is transmitted. Application of high voltage to electrodes in the cell alters the polarization of the light, and by controlled timing photographic records with an effective exposure time of 0.01 millionth of a second have been made.

A new scheme was developed for measuring very large direct-currents such as are used in electrolytic plants. A special current transformer of the through type is applied with a winding energized by alternating current. Changes in direct-current affect the reluctance of a magnetic circuit, and hence the flow of alternating current. The latter may be measured in terms of the direct-current.

G. ROSS HENNINGER.

ELECTRIC LIGHT AND POWER. Early in the year the electric power situation in the United States was studied by the National Security Resources Board and was described as tight by Arthur M. Hill, chairman of NSRB. Spare capacity had reached new low points, and system expansion was limited by the capacity of equipment manufacturers to deliver new equipment. Thus did the industry enter into a year which was to set new record peaks.

By the end of the year record growth was shown in physical plant, production, number of customers, and new financing, and the industry was placed in the position of a continuing advance to new peaks. In the first 11 months of the year about \$1,812,500,000 of construction expenditures were financed, and about 4 million kilowatts of new generating capacity were added, the largest addition in a single year on record. Installed capacity reached 55 million kilowatts at the end of the year, and with the addition of 2 million new customers, power generation rose about 10 percent above 1947 figures to reach 282,000 million kilowatt-hours.

Average yearly residential consumption reached a new peak of 1,550 kilowatt-hours, with service available to 97 percent of all homes and in use in 94 percent. Average yearly consumption on farms was about 1,900 kw-hr, with about 75 percent of the nation's farms supplied. About 12 percent more are within a quarter of a mile of power lines, and the industry plans continued expansion of service.

Production. The all-time record of 255,000 million kw-hr of electric energy produced was eclipsed easily by the 1948 production of 282,037 million kw-hr, an increase of 14 percent. Slightly greater than average amounts of increase were shown in the early months of the year, and somewhat less than average in months toward the end.

There were indications, however, of a slowing up of the increase in energy sales. While the largest increase in consumption in the history of the industry was the 26,800 million kw-hr in 1947, exceeding even the increase in the war year of 1943, the year 1948 saw an increase of only 22,400 million kw-hr. Large industrial customers were the chief factor in the decrease, as residential sales continued an upward trend and small industrial light and power sales showed only a smaller increase than in the preceding year.

Production of electric energy by water power increased only slightly as compared to 1947, hence the great bulk of the increased generation was in fuel-burning plants. Their proportion of the total was boosted to 71.5 percent, the highest since 1940 and well above the 69.4 percent in 1947 and 65.3 in 1946. The corresponding percentages of electric power produced in hydroelectric generating plants were 28.5, 30.6, and 34.7, respectively. Classification of the source of electric power by type of ownership produced figures practically identical with similar figures in 1947 and 1946; 81 percent of the total was generated by privately owned utility plants, 12.4 percent by Federal power projects, and 6.6 percent by miscellaneous municipal and other public plants. Other selected comparative statistics are given in Table 1.

TABLE 1 ELECTRIC POWER PRODUCTION IN THE UNITED STATES
(millions of kilowatt hours)

Year	U.S. plant ownership		Energy source		From Canada	Gross Total	Uses and losses	Available for sale
	Private	Govt.	Fuel	Hydro				
1948 ^a	227,800	54,300	201,300	80,700	1,200	283,200	43,200	240,000
1947 ^b	208,100	47,600	177,300	78,100	1,300	257,000	39,400	217,600
1937	113,400	8,400	77,300	41,500	1,700	123,000	24,200	98,800
1932	87,500	4,900	49,100	33,300	0,400	82,900	19,100	63,700
1929	91,200	4,700	62,700	33,200	1,000	96,900	21,600	75,300

^a Preliminary figures. ^b Revised figures.

Finances For 1948 the estimated gross revenue from the sale of electric power in the United States was reported as nearly 4,300 million dollars as compared with the 1947 final revised figure of nearly 3,852 million. This figure now is almost a 1,000 million dollars higher than the 1945 total of 3,340 million, and is far above the boom year of 1929 with its total of 1,940 million.

To produce the revenue for 1948, an estimated 240,000 million kilowatt-hours were sold. The difference between total generation and sales, of course, is accounted for by losses and energy used by the producer. While sales showed a large increase over the final figure of 217,581 million kw-hr for 1947, it represented a smaller increase than did the gain of nearly 27,000 million kw-hr between 1946 and 1947. Large industrial electric light and power users accounted for almost 124,000 million of the total, an increase of only 10,300 million over 1947 compared to the previous year's increase of 16,600 million over 1946.

The average residential customer continued to use increasing amounts, and the number of new

TABLE 2—ELECTRIC POWER SALES AND REVENUE

	Total number of customers	Energy sales (millions of kw-hr)	Revenue (1,000's of dollars)
Urban Residential			
1948 ^a	33,551,100	50,550	1,525,000
1947 ^b	31,022,000	44,171	1,306,498
Change	+1,929,100	+6,379	+218,502
Rural			
1948 ^a	1,711,500	6,500	146,000
1947 ^b	1,522,136	5,551	123,748
Change	+189,364	+949	+22,252
Commercial and Industrial			
1948 ^a	5,512,300	182,950	2,616,000
1947 ^b	5,287,855	107,850	2,302,519
Change	+224,445	+15,091	+253,481
Total U.S.			
1948 ^a	40,774,900	240,000	4,287,000
1947 ^b	38,431,950	217,581	3,852,765
Change	+2,342,950	+22,419	+434,235

^a Preliminary figures. ^b Revised figures.

customers added in 1948 set another record. From the 1947 final average consumption of 1,438 kw-hr the estimate for 1948 rose to 1,550. Meanwhile the average revenue per kilowatt hour for this service dropped from 3.09 cents to 3.01 cents, thereby continuing its long-time trend. For comparison,

consumption in 1935 was 672 kw-hr, at 4.99 cents per kw-hr.

The total number of customers at the end of the year 1948 was set tentatively at 40,774,900. One fact revealed by the geographical distribution of the figures was that regions with the most rapid growth in total number of customers did not show the least growth in commercial and industrial customers. Data pertaining to electric power sales and revenues for various classes of customers are shown in Table 2.

Gross operating revenue of \$3,875 million was estimated to yield a net income of \$663 million, compared to the 1947 final net income of \$656 million, which came from final gross operating revenue of \$3,480 million. The changed ratio between income and revenue was the result of the effect of

the increased output on the several factors comprising operating expenses. Fuel costs increased to take 19.5 percent of gross revenues as compared with 16.4 percent in 1947. In addition to an increase in the price of coal, the shortage of water in some areas caused the substitution of power from fuel-burning plants for power from hydroelectric plants, a condition that was particularly serious in the first half of the year. Capital charges remained about the same as in 1947, but taxes increased 7 percent because of the greater property value. Table 3 shows the distribution of the average dollar among the several items for selected years.

TABLE 3 DISTRIBUTION OF AVERAGE DOLLAR
(Percentage)

Item	1941	1946	1947	1948 ^a
Fuel	9.6	13.1	16.4	19.5
Salaries and wages	16.1	18.5	20.6	20.6
Other operating expenses	10.8	10.9	10.2	10.3
Depreciation	10.8	9.9	9.4	9.1
Fixed charges	12.0	8.0	6.8	6.1
Taxes	20.0	19.6	18.4	17.8
Dividends and surplus	20.7	20.0	18.2	16.6
Totals	100.0	100.0	100.0	100.0

^a Preliminary figures.

Operation. For the 12-month period ending Oct. 31, 1948, the coal, oil, and gas consumed for the production of electric power amounted to the estimated gross equivalent of 128 million tons of coal as compared to the 1947 equivalent consumption of 115.67 million tons.

Although output grew 14 percent during 1948, new generating capacity grew only 5 percent. Besides the obvious decrease in reserve capacity, the situation was reflected in the cost of generating a kilowatt-hour of electricity because of the need for operating old equipment; few units that were operating 20 years ago have been retired. Furthermore, new equipment in some instances had to be operated beyond its point of maximum efficiency. The result was the continued leveling off of the curve of improvement of fuel efficiency which by 1942 had reached the figure of 1.3 lb. of coal per kilowatt-hour. The figure for 1948 was the same—1.3—although equipment currently being installed is able to generate a kilowatt-hour on one lb. or less.

Statistics compiled by the Federal Power Commission for the 12 months ending Oct. 31, 1948, show the actual consumption of 99.08 million tons of coal, 42.94 million barrels of oil, and 461,020 million cubic feet of gas in the production of electric power. In comparison with 1947, the figures show the consumption of 10 percent more coal, 5 percent less oil, and 27 percent more gas. The energy generated in the period ending Oct. 31, 1948, is given as 197,215 million kw-hr.

The decrease in hydroelectric generation was shown in figures reporting the yearly output per kw of capacity. Fuel-burning plants were credited with 5,246 kw-hr for 1948 as compared with the final figure of 4,870 kw-hr for 1947, while hydroelectric stations were credited with only 5,279 kw-hr per kw of capacity as compared with the final figure of 5,442 kw-hr for 1947. The over-all figure was estimated as 5,258 kw-hr; final figure for 1947 was 4,983.

Generating Capacity. Forecasts for the year 1948 as published in *Electrical World* called for the installation of 4,409,044 kw of new capacity. Actual accomplishment fell only slightly short of this figure, with 4,012,166 kw of new capacity divided between 3,132,036 kw in fuel-burning plants and 880,130 kw in hydroelectric plants. The total electric generating capacity, after deduction of retired equipment, was brought to 54,968,000 kw on Nov. 1, 1948, with 39,398,000 kw in fuel-burning plants and 15,570,000 in hydroelectric plants.

TABLE 4—ADDITIONS TO U.S. ELECTRIC GENERATING CAPACITY

Year	Fuel plants or systems					Hydroelectric plants or systems					Grand total of fuel and hydro	
	No.	Kilowatts	No.	Private Kilowatts	Total No. Kilowatts	No.	Public Kilowatts	No.	Private Kilowatts	Total No. Kilowatts	No.	Kilowatts
1948	13	180,430	92	2,951,606	105	3,132,036	4	689,700	8	190,430	12	880,130
1947	10	218,500	61	1,565,499	71	1,783,999	2	365,000	5	54,750	7	419,750
1929						2,081,300					249,200	2,330,500

The decreasing margin between capacity and demand was shown by the rise to 61 percent of the average hours use of over-all capacity, which means that each typical kilowatt (rated) of generating capacity operated at its full capacity for 61 hours out of every 100. The 1947 figure was 57.5, and in 1934 it was as low as 30.3. Predictions call for the delivery of an average of more than 6 million kw

5,052 million in 1948. The number of systems in operation continued a steady growth—869 in 1946, 911 in 1947, and 955 in 1948. The number of systems generating power was reported as 87, a marked increase from the 81 in 1947 and 79 in 1946. Generating plant capacity for the three years was 217,000 kw, 184,050 kw, and 114,678 kw, respectively.

Public funds allocated to REA by the U.S. Treasury increased during the year by almost \$400 million to bring the total to \$1,590 million. This increase was almost double the increase in 1947, when loans increased from \$958 million to \$1,190 million. Thus in a two-year period an increase of about 50 percent in the number of consumers was accompanied by an increase of about 85 percent in funds, based on 2,515,000 consumers served in 1948 and 1,683,901 in 1946.

—G. ROSS HENNINGER.

TABLE 5—DISTRIBUTION OF GENERATING CAPACITY

Area—State Groups	Fuels		Hydroelectric	
	No. of plants	Kilowatts (thousands)	No. of plants	Kilowatts (thousands)
6 New England . . .	98	2,566	216	914
3 Mid. Atlantic . . .	164	9,572	197	1,590
5 E. No.-Central . . .	384	11,764	292	744
7 W. No.-Central . . .	771	3,370	128	564
8 So. Atlantic	228	4,865	158	2,221
4 E. So.-Central . . .	93	1,408	39	2,253
4 W. So.-Central . . .	367	2,909	36	385
8 Mountain	220	787	198	2,057
3 Pacific	76	2,157	212	4,842
Totals	2,401	39,398	1,476	15,570
Over-all U.S. Total: 3,877 plants; 54,968,075 kw. capacity				

* Includes both steam and internal-combustion-engine plants.

of new capacity in each of the years 1949–51, after which the necessity for the addition of new capacity is expected to become less urgent.

Data relative to additions to generating capacity are presented in Table 4. Table 5 shows the geographical distribution of generating capacity as of Nov. 1, 1948, according to statistics published by the Federal Power Commission. The U.S. total of 3,877 plants compared with the 1947 total of 3,860 shows continuation of a trend toward larger units in fewer plants as noted in last year's YEAR BOOK.

EL SALVADOR. The smallest of the Central American republics. Although entirely within the tropics, the greater part of the surface consists of fairly high plateaus and mountain valleys, which makes the climate mostly temperate.

Area and Population. Area: 13,176 square miles. Population: 2,047,000 in 1947 (72 percent mestizos, 20 percent Indians and 8 percent of European descent). Principal cities: San Salvador (capital), 123,143 in 1946; Santa Ana, 98,942; La Libertad, 37,879.

Education and Religion. Freedom of worship is guaranteed by the Constitution. Catholicism is predominant. Spanish is the official language, but the Indians speak their own language. According to recent statistics, some 100,000 pupils attended

nearly 1,600 elementary schools of all kinds. In 1944 there were 63 secondary schools with 4,765 students. Higher education is provided by the National University of El Salvador.

Production. The country is almost completely agricultural, and coffee is the most important export. Production of coffee in 1947-48 was 1,035,000 bags of 60 kilos. Coffee exports during the first part of that crop year amounted to 863,892 bags. The same year, the cotton crop was the largest on record, totaling over 19,000 bales. The sugar crop was estimated at 525,000 quintals and production of tobacco leaf was over a million lb. Other crops were rice, corn, hennequen and beans. Balsam, indigo, gold, silver and hardwoods are exported.

Foreign Trade. Exports in 1947 amounted to \$40,-100,000 and imports to \$35,900,000. Exports during the first five months of 1948 were valued at 81,810,000 colones (colón equals U.S.\$0.40) and imports at only 40,290,000 colones. The principal countries for exports were: the United States, Canada, Honduras, and Guatemala. The most important exporters to El Salvador were the United States, Mexico, Honduras, Great Britain, and Canada.

Transportation. The country had 388 miles of railway, and 3,691 miles of roads. Most recent figures showed 4,074 motor vehicles registered. There were 11,000 radio sets and 4,111 telephones. International companies provide air transportation in El Salvador.

Finance. Budget estimates (1948): revenue, 57,-702,571 colones; expenditure 57,552,571 colones. Public debt (1946) amounted to \$17,263,000. Currency in circulation at the end of 1947 was 55,410,000 colones; bank deposits on the same date were 29,940,000 colones and gold reserves \$15,000,000. Total cost of living in June, 1947, was 199 (1940=100). Due to the favorable balance of trade, the foreign exchange holdings on June 30, 1948, amounted to \$21,200,000. There were no import restrictions or exchange control in El Salvador.

Government. Under the constitution of 1886, re-adopted with amendments in 1945, El Salvador is a centralized republic of 14 departments. Legislative authority is vested in the National Assembly of Deputies, a unicameral body whose members are elected by popular vote. The Chief Executive is the President, assisted by a Cabinet of Ministers of State (whom the President appoints). Early in 1947, the Congress created three new ministries: Labor and Social Welfare, Social Assistance, and Agriculture and Industry. In January, 1945, General Castañeda Castro was elected President. On December 14, a military coup d'état overthrew the government of President Salvador Castañeda Castro.

Events, 1948. In February, a large group of University students filed a serious protest with the Minister of the Interior, to the effect that the administration was unnecessarily prolonging the state of seige previously declared. The students complained that there was no political freedom and that party activities were curtailed. They were supported by the "Diario Latino," a San Salvador newspaper, which added that, although it was against the law, the government continued to appoint municipal authorities, using the outward appearance of elections, that were in reality ineffective.

Cabinet Change and Economic Measures. Late in February, the Minister of Finance resigned and was succeeded by Dr. Carlos Alberto Luévano, former private secretary to the President. The ap-

pointment of a personal friend of the President's roused criticism by the opposition. Shortly after, the Federation of Coffee Growers announced that they would not sell the grain at a lower price than quoted in the market in January. The Federation also approved a motion asking for protection of their product, and appointed a delegation to represent their interests at the Bogotá Conference.

Military Revolt. The uprising that deposed President Castañeda Castro on December 14 was composed of younger officers of the army who immediately formed a military junta.

Internationalism. A distinguished Salvadorean jurist, Dr. José Gustavo Guerrero, continued to preside during the year over the International Court of Justice, and his compatriots were highly pleased when the Institute of International Law recommended Dr. Guerrero as their candidate for the Nobel Peace Prize of 1948.

On July 18, Col. José Figueres, head of the de facto government of Costa Rica, visited the country. He was received by the President and other government functionaries. It was disclosed that the purpose of his visit was to strengthen the Central American Union.

El Salvador attended the Ninth Inter-American Conference of American States, held in Bogotá in April (see PAN AMERICAN ACTIVITIES).

MIGUEL JORDÁN

EMPLOYEES' COMPENSATION, Bureau of. This bureau was created within the Federal Security Agency to perform the functions of the former United States Employees' Compensation Commission (abolished by the Reorganization Plan II), which were transferred to the Federal Security Agency (Reorganization Plan II of 1946, effective July 16, 1946). The Bureau administers the Federal laws establishing workmen's compensation programs for employments within Federal jurisdiction. Director: William McCauley.

EMPLOYMENT SECURITY OPERATIONS. As the calendar year of 1948 ended, the Federal-State employment service and the Federal-State unemployment program (UI) had completed six months of unified operations under the Bureau of Employment Security, Social Security Administration, Federal Security Agency. The United States Employment Service (USES) was transferred from the Department of Labor July 1, 1948.

The Bureau of Employment Security, through the USES, promotes and develops a nation-wide system of public employment offices, and maintains a veterans employment service. The bureau also has the obligation of providing leadership in developing the Federal-State program for protecting workers against the risk of unemployment, through unemployment insurance. The bureau is responsible for making recommendations to the Commissioner for Social Security regarding funds for administration of State employment services and State unemployment insurance programs. During the calendar year of 1948, the Bureau recommended a total of \$133,244,355 in administrative grants to the States for operation of the State employment services and the State unemployment insurance programs. These grants exclude postage costs which are computed and paid at the Federal level.

Employment Service. The responsibilities of the United States Employment Service and the 48 State employment services were increased by the return on Jan. 1, 1948, of the farm placement function which had been performed by the public employment service before World War II. The return of this function coincided with the termination of

the Emergency Farm Labor Supply program of the U.S. Department of Agriculture Dec. 31, 1947.

During the calendar year of 1948, the State employment services placed approximately 6 million workers in farm and food processing employment with the result that the record crops of the year were grown, harvested, and processed with no losses chargeable to manpower shortages. A comparatively small number of foreign workers were brought in for agricultural employment, particularly in the cotton and beet fields—approximately 60,000 during the year. Nonagricultural placements were more than 5 million.

During the fourth quarter of 1948, the situation confronting the employment service was in sharp contrast to that existing in 1940 when there were some 8 million unemployed persons. In some respects the manpower situation was similar to that of 1941-42 when certain skills were at a premium. All of the services of the employment service were intensified to meet the needs of both workers and employers. These services facilitated the return of veterans to the labor market, assisted youth entering the labor market for the first time, promoted the employment of the physically handicapped, and helped workers transferring from job to job.

Through its interviewing, counseling, and interstate labor-clearance functions the employment service aided millions of workers find job adjustment. During the year the local offices made 16,670,500 referrals of job applicants to employers, and made 2,662,300 calls on employers. In the same period the local offices made placements of 1,650,800 veteran applicants.

Placements of handicapped job applicants totaled 229,000, of which 125,000 were handicapped veterans. The Veterans Employment Service conducted an aggressive year-round program to aid disabled veterans secure suitable employment, and cooperated with schools and colleges to facilitate placement of veteran students completing their studies.

The use of employment service tests, especially the General Aptitude Test Battery, was expanded greatly during the year. Many schools and colleges added aptitude testing to their programs and requested assistance from the employment service.

A technical tool—an occupational guide series—providing information as to the economic characteristics of jobs and methods of entering jobs, was introduced into the field of counseling for the first time. Although primarily intended for use of employment service counselors, the Veterans Administration printed several thousand copies of each occupational guide for its own counseling program. Also, vocational advisors, college and high schools, corporations, and prisons purchased the guides through the Superintendent of Documents.

A revision of the *Dictionary of Occupational Titles*, first published in 1939, was completed during the year for release to public employment offices in February or March, 1949. The new edition will present an expanded occupational coverage in numerous industries, with more than 1,600 new job definitions and more than 500 revisions of old job definitions.

A Federal Advisory Council, consisting of representatives of the public, labor and management, and veterans, was appointed to advise an over-all national policy of the United States Employment Service and Unemployment Insurance programs.

Unemployment Insurance. The Bureau, through the unemployment insurance program, reviews State laws and appraises State administration from the standpoint of conformity with Federal requirements

and eligibility for grants and certification for tax credits. It also provides assistance to the States in developing legislation, rules and regulations, interpretations, and administrative procedures dealing with the unemployment insurance program. The Federal Government grants the entire amount of funds for State administrative costs, as is presently practiced in the case of the State employment services. Each State administers its own unemployment insurance program and employment service.

Under its own unemployment insurance law each State collects contributions from employers (2 States also have employee contributions), which are deposited in the U.S. Treasury to the credit of the individual State. The Bureau's responsibility includes ascertaining that State laws include provisions that benefits be paid through public employment offices or other approved agencies; and that the worker's right to benefits be safeguarded when he refuses a job which fails to meet the standards of suitability of employment provided in Federal and State laws. Provision is also made for an opportunity for a fair hearing in all cases.

During the course of the 1948 calendar year, 45.6 million workers earned some wage credits under State unemployment insurance systems, 3.5 million less than under old-age and survivors insurance. During the year, about 6 million workers filed claims for unemployed insurance. Of this number about 5.1 million workers had sufficient wage credits to qualify for benefits under State systems. About 4.0 million workers actually drew some unemployment insurance benefits.

State employment security agencies paid out \$790 million in unemployment insurance benefits to eligible workers, many of whose skills did not match specifications for available jobs, or to workers who were difficult to place in jobs even in a period of unusually high employment such as prevailed in 1945. The average weekly benefit payment for the country as a whole was \$18.05, and slightly higher than in 1947. As a result of legislative action during the year, New Jersey became the third State which provides unemployment benefits for temporary disability. The two others are California and Rhode Island.

A total of \$1,000 million was collected by the States in 1948 from employers subject to State unemployment insurance laws, and in two States—Alabama and New Jersey—from employees based on a one percent payroll tax.

Interest on investments in the Unemployment Trust Fund in the U.S. Treasury amounted to \$155 million, and State balances in the fund at the end of the year amounted to about 7,600 million dollars.

Temporary reconversion unemployment benefits for officers and members of crews employed by the United States through the War Shipping Administration or its successor, the Maritime Commission, totaled \$3,769,000 between July, 1947, and Sept. 30, 1948. This program is scheduled to expire June 30, 1949.

—ROBERT C. GOODWIN

ENGLISH LITERATURE. The great scarcity of book materials was slightly eased in 1948, but publishers had to use most of the increase of paper to revive standard works which had fallen out of print. An increasing number of English books were published in America, often remaining unavailable to English readers. In literature 1948 seemed to be a boundary line. Most of the older generation of writers were played out; none of the established writers in the various fields produced a happy surprise, and few lived up to the level of their reputations.

The younger generation of writers was still in a state of flux, placing emphasis largely on experimental treatment and psychological approach. In all branches of literature the war, directly or indirectly, was the most powerful shaping force.

Biography. Among biographies of recent figures were R. L. Collins' *Lord Wavell 1883-1941*, a military biography; Roy Jenkins' *Mr. Attlee*, an interim treatment; and Margaret Cole's collection of *Makers of the Labour Movement*. Other English figures include *Garrick* by Margaret Barton; *Beau Brummell* by Kathleen Campbell; *The Great Dr. Burney* by Percy A. Scholes; and *William Temple, Archbishop of Canterbury*, by F. A. Trenchenger.

Clare Leighton's charming *Tempestuous Petticoat* was about her mother Mrs. Leighton, the Edwardian novelist. Cardinal Newman was the subject of Masie Ward's *Young Mr. Newman* and Robert Sencourt's *The Life of Newman*. In *Two Quiet Lives* David Cecil wrote about Dorothy Osborne and Thomas Gray. J. H. Whitfield's *Machiavelli* was an attempt to make him plain. Angus Armitage's *Sun, Stand Thou Still* was about Copernicus.

In autobiography Osbert Sitwell's *Laughter in the Next Room* was the fourth volume of his inclusive work. Beatrice Webb's *Our Partnership* and Henry Handel Richardson's *Myself When Young* were both posthumous and unfinished. Rich lives were described in Harold Acton's urbane *Memoirs of an Aesthete*; Sir James Grigg's *Prejudice and Judgment*, by the Secretary of State for War, 1942-45; Phyllis Bottome's *Search for a Soul*.

Literary History and Criticism. The emphasis in literary scholarship was more on interpretation than biography. Siegfried Sassoon's *Meredith* and W. A. M. Peters' *Gerard Manley Hopkins* were outstanding critical appreciations, as was Joan Bennett's *George Eliot* and Lord Gorell's *John Keats*. Laura L. Hinckley's *The Brontës* treated family life, while Katherine Anthony's *The Lambs* emphasized Mary. Other literary studies included Esther Meynell's *Portrait of William Morris*; R. W. Chapman's *Jane Austen*; Florence B. Lennon's psychoanalysis of *Lewis Carroll*; and F. Brittain's biographical *Arthur Quiller-Couch*. Sir William James edited *The Order of Release*, the letters of John Ruskin and Elsie Gray. John Cowper Powys interpreted *Rabelais*, while Barker Fairley's *A Study of Goethe* was psychological. R. L. Chambers discussed *The Novels of Virginia Woolf*, while Bernard Blackstone's *Virginia Woolf* was a general analysis. B. Rajan edited a collection of studies of *T. S. Eliot*. Other literary studies included H. S. Bennett's *Chaucer and the Fifteenth Century*; J. W. H. Atkins' *English Literary Criticism: The Renaissance*; and Elizabeth F. Rogers' edition of *The Correspondence of Sir Thomas More*.

Collections of essays included Geoffrey Grigson's *The Harp of Aeolus*, on esthetics; Virginia Woolf's posthumous *The Moment*; and W. R. Inge's *The End of an Age*. Ernest Gower's official pamphlet, *Plain Words*, became a popular guide to the use of English. Alex Comfort's *Art and Social Responsibility* and Herbert Read's *The Grass Roots of Art* discussed the artist's relation to society. Other books on art included Robert Ironside's well-illustrated *Pre-Raphaelite Painters* and James Lees-Milne's *The Age of Adam*, on architecture. Frank Howes discussed the philosophy of music in *Man, Mind, and Music*. Wilfred Mellers wrote *Studies in Contemporary Music* against a background of national traditions. The Master Musicians Series and the Music of the Masters Series dealt with individual musicians.

History. Recent history was a popular subject but other periods received scant attention. English history was treated in Sir Tresham Lever's *The House of Pitt*, the 18th century; Douglas Jerrold's *An Introduction to the History of England*, to the end of the 12th century; F. C. Turner's *James II*; and John Harvey's *The Plantagenets 1154-1485*. In *The First Europe* C. Delisle Burns drew an analogy between our times and that of medieval Christianity, while John Bowle's *The Unity of European History* was a political and cultural survey. More recent events were the subject of L. B. Namier's *Diplomatic Prelude*, 1938-1939, and J. W. Wheeler-Bennett's *Munich: Prologue to Tragedy*.

Formal chronicles of the war were beginning to emerge, the most important being *The Gathering Storm*, the first volume of Winston Churchill's *The Second World War*. Lord Montgomery's *El Alamein to the River Sangro* traced the military campaign in Africa, Sicily, and Italy. Taprell Darling covered the *Western Mediterranean 1942-1945*, a commentary rather than a narrative. Lord Tedder discussed *Air Power in War*, and B. H. Liddell Hart treated the conduct of the war from the German side in *The Other Side of the Hill*. R. H. Bruce Lockhart's *Comes the Reckoning* and Dudley Clarke's *Seven Assignments* were personal reminiscences by official figures. More informal accounts included Michael Packer's *First Airborne*, a combination of history and fiction; Julian Amery's *Sons of the Eagle*, guerrilla war in Albania; Roy Farran's exciting *Winged Dagger*; Philip Stibbe's *Return Via Bangkok*, jungle warfare with Wingate; and David James' *A Prisoner's Progress* and A. S. B. Arkwright's *Return Journey*, two accounts of escape from prison.

The Contemporary Scene. Contemporary problems exercised many minds. Barbara Ward's brilliant *The West at Bay* analyzed the modern impasse and advocated union of the Western powers. Arnold J. Toynbee's *Civilization on Trial* discussed man's past and future, while John Middleton Murry's *The Free Society* was concerned with foreign and domestic policies. John Parker in *Labour Marches On* and Quintin Hogg in *The Case for Conservatism* presented opposite points of view. Other books on current problems included John Jewkes' *Ordeal by Planning*, a defense of free enterprise; Lord Vansittart's vigorous *Events and Shadows*; and *The Challenge of Our Time*, a group of broadcast talks on the impact of the atomic revolution on human relations.

The American scene inspired two scintillating books: Geoffrey Gorer's *The Americans*, on our customs and manners; and Harold J. Laski's *The American Democracy*, a gloomy look at our culture and politics. D. W. Brogan continued his study of this country in *American Themes*. Wyndham Lewis in *America and Cosmic Man* stated that America is evolving a world man for the world state. Books on other parts of the world included Sacheverell Sitwell's *The Netherlands*, on art and social life; E. Lucas Bridges' *Uttermost Part of the Earth*, *Tierra del Fuego*; Robert Gibbings' *Over the Reefs*, the Polynesian Islands; Dane Chandos' *Village in the Sun*, daily life in Mexico; George Millar's *Isabel and the Sea*, a Mediterranean trip; and H. W. Tilman's magnificently illustrated *Mt. Everest 1938*, the official account of the 5th Everest expedition. *Dragon Fangs* by Claire and William Band described two years with the Chinese guerrillas. John Bagot Clubb told the *Story of the Arab Legion*. Several volumes were published in The New Naturalist Series, which will be a complete survey of Britain's natural history. L. Dudley

Stamp's *The Land of Britain, Its Use and Misuse* was a standard work on agricultural geography. John Moore's *The Blue Field* was another Brensham book on English village life.

The Novel. The novel received a new spurt of vigor in 1948. Veteran writers turned out their usual reliable product, among them being A. J. Cronin's *Shannon's Way*; Angela Thirkell's *Love Among the Ruins*; L. A. G. Strong's *Trevannion*; P. G. Wodehouse's *Spring Fever*; James Hilton's *Nothing So Strange*; Nevil Shute's *No Highway*; Howard Spring's *There Is No Armour*; Margery Sharp's *The Foolish Gentlewoman*; G. B. Stern's *No Son of Mine*; R. C. Sherriff's *Another Year*; and Frank Swinnerton's *Faithful Company*. English family life was the subject of Phyllis Bentley's *Life Story*; Sheila Kaye-Smith's *The Lardners and the Laurelwoods*; Humphrey Pakington's *The Washbournes of Otterley*; and I. Compton-Burnett's *Bullivant and the Lambs*.

Aspects of the war were treated in Robert Kee's *A Crowd Is Not Company*, about a prisoner-of-war camp; Alexander Baron's *From the City, From the Plow*; Christopher Sykes' *Answer to Question 33*, a tragic wartime romance; and Howard Cleaves' *The Unforgiven*, about the partisans. Storm Jameson in *The Black Laurel* and Francis Stuart in *The Pillar of Cloud* dealt with postwar Europe, while Stuart B. Jackman's *Portrait in Two Colours* and Winston Clewes' *Journey into Spring* treated post-war England. Evelyn Waugh in *The Loved One* and Aldous Huxley in *Ape and Essence* satirized aspects of modern life, while Humphrey Slater in *The Conspirator* dealt with national and party politics.

Historical novels included Margaret Irwin's *Elizabeth, Captive Princess*, about her 19th year; Sylvia Townsend Warner's *The Corner That Held Them*, set in a medieval nunnery; Nigel Balchin's modern treatment of *The Borgia Testament*; Georgette Heyer's pleasant *The Foundling*; C. S. Forester's *The Sky and the Forest*, about 19th century Congo natives; Somerset Maugham's Spanish *Catalina*; and Jane Lane's treatment of Mary, Queen of Scots in *Parcel of Rogues*. Timothy Pember's *The Needle's Eye* and Robert Liddell's *The Last Enchantments* were set in the 1930's.

Among successful fantasies were T. H. White's *The Elephant and the Kangaroo*, an Anglo-Irish Noah; Barbara Gooldeen's *Jig-Saw*; Ronald Frazer's *Maia*; and Shamus Frazer's witty *Barbary Court*. Among unusual backgrounds were the Welsh village of Elizabeth Inglis-Jones' *Aunt Albinia*; the London slum of Gerald Kersh's *The Song of the Flea*; the India of Aubrey Menen's first rate *The Prevalence of Witches*; the ballet school of Rumer Godden's *A Candle for St. Jude*; the Ceylon of Robert Standish's *Elephant Walk*; and the witch-burning of Edith Pargeter's *By Firelight*. Ian McLeish in *Adam in the Woodpile* and Elspeth Huxley in *Walled City* wrote about the relationship between white and colored people.

Psychological themes and treatment were used in Peter dePolnay's *The Moot Point* and his disjointed *The Fat of the Land*; John Pudney's sensitive *Estuary*; Jack Lindsay's existential *The Subtle Knot*; and Anna Kavan's novel of a woman's dreams, *Sleep Has His House*. Graham Greene's powerful *The Heart of the Matter* dealt with the religious conscience, as did Ethel Mannin's *Late Have I Loved Thee*.

The handful of promising first novels included Peter Vansittart's *Enemies*; John Cousins' *The Desolate Market*; Jack R. Clemo's Cornish *Wilding Graft*; Dodie Smith's *I Capture the Castle*; J. D.

Scott's novel of psychological suspense, *The Cellar*; Elizabeth Wood's romantic *Afterglow*; and John Prebble's *The Edge of the Night*, about a British soldier in Germany. Ian Niall's violent *No Resting Place* was followed by his *Tune on a Melodeon*, about the same group of tinkers.

Short Stories. Collections by veteran writers included Lord Dunsany's *The Fourth Book of Jorikens*; M. P. Shiel's posthumous *Best Short Stories*; Christine Weston's *There and Then*, with an Indian background; and Laurence Housman's *Strange Ends and Discoveries*. William Sansom's *Something Terrible, Something Lovely*, and L. T. C. Rolt's *Sleep No More* were vivid horror stories, while Reginald Moore's *Silence Comes After* and T. O. Beachcroft's *Malice Bites Back* had technical ability. G. F. Green's original *Land Without Heroes* was a first collection, as was Hallam Tennyson's *The Wall of Dust*. Olivia Manning's *Growing Up* dealt with the development of a woman.

Poetry. 1948 was not a memorable year in poetry. Familiar names appearing with collections included Louis MacNeice, with *Holes in the Sky*, poems 1944-1947; C. Day Lewis, with *Poems 1943-1947*; Sir John Squire, with *Selected Poems*; John Betjeman, with *Selected Poems*; and Edith Sitwell, with *The Song of the Cold*. Among other collections of distinction were Lilian Bowes-Lyon's austere *Collected Poems*; Lawrence Durrell's accomplished *On Seeming to Presume*, with an Aegean background; Norman Nicholson's promising *Rock Face*; Redwood Anderson's philosophic *Pillars to Remembrance*; and Terence Tiller's sophisticated *Unarm, Eros*. An anthology *Poems of the War Years* was compiled by Maurice Wollman.

Philosophy and Science. In philosophy Bertrand Russell's *Human Knowledge* related man to the universe, while C. E. M. Joad analyzed *Decadence*. Christopher Dawson emphasized the importance of religion in *Religion and Culture*. George S. Duncan's *Jesus, Son of Man* was a modern portrait. Maurice Collis traced the effect of Confucius in *The First Holy One*. Werner Jaeger wrote on *The Theology of the Early Greek Philosophers*. In science Sir James Jeans traced *The Growth of Physical Science* from the 15th century, while Sir Arthur Keith explained his radical group theory in *A New Theory of Human Evolution*. (See AMERICAN LITERATURE.)

—ARTHUR E. JENSEN

ENGRAVING AND PRINTING. Bureau of. A Bureau of the U.S. Department of the Treasury which designs, engraves, and prints the U.S. currency and other engraved work for governmental use. Director: Alvin W. Hall.

ERITREA. A former Italian colony on the western shore of the Red Sea, under British Military administration since its conquest by Allied forces in 1941. Area about 15,754 square miles. Population: 700,000, of whom 48,718 were Italians (1944). The natives are racially and linguistically akin to the Ethiopians.

Asmara (the capital: pop. 85,000) and the seaport Massowah are the only towns of any importance. Chief agricultural products are coffee, barley, tobacco, sesame, skins, and hides. Pearls, gold, and potassium salts are found.

ESPERANTO. Increased support for the practical use of Esperanto as a neutral and easy-to-learn Inter-language has become evident through the gathering of more than 12½ million signatures for a petition requesting the United Nations to give "urgent and serious consideration" to the language ques-

tion and to promote the use of Esperanto by "encouraging its teaching in schools . . . and developing its use in travel, international commerce, and correspondence." A total of 9,829,070 signatures were processed up to Dec. 1, 1948. Signers included the President of France, the Prime Ministers of the Netherlands, Czechoslovakia, and Poland, 271 members of national legislatures, 1,823 lawyers, 35,110 teachers, 1,584 clergymen, 1,343 scientists, 523 labor union officials, and 1,849 hotel managers.

Shortwave news broadcasts in Esperanto averaged more than 150 a month. At the beginning of 1948, the French Government radio started a daily program in Esperanto for a world wide audience. At the beginning of 1949 the schedule was: Prague, twice a day; Paris, daily; Stockholm, 8 times a week; Bern, twice a week; Sofia, twice a week; Vienna, twice a week; Warsaw, weekly; Munich, twice every second week. In Europe, an "underground" station calling itself "Radio-Esperanto" was heard four times every Sunday. Its location remained unknown. There were many hundreds of longwave broadcasts in Esperanto in 1948.

Scholarly journals printing summaries of major articles in Esperanto included in 1948: medical journals in France, the Netherlands, and Japan; an ornithological journal in France; publications on zoology, in Norway; on botany, in the Netherlands; on plant pathology, in Denmark; on physics and earth magnetism, in Japan; on geography and statistics, in Brazil.

Esperanto is taught in hundreds of schools throughout the world, but no comprehensive figures are available. In Athens, Greece, the Interlanguage was taught last year in 8 high schools, 2 teachers' colleges, and the experimental school of Athens University to a total of 1,036 students. In Japan, Esperanto is being taught in about 85 schools, in 6 of them on a compulsory basis. In the western occupation zones of Germany, 95 Peoples' Colleges (Adult Education Centers) featured Esperanto classes. In England, attendance at Esperanto classes was compulsory in 9 schools, optional in 6 (or more) schools. In the United States, Indiana University added a course, "Esperanto: An Introduction to Basic Language," to the home study courses of its Division of Adult Education and Public Services. At the Missouri School of Mines, a charter was granted in February 1948 to an extremely active Esperanto Club.

Approximately 40 international Esperanto conferences and national conferences with foreign guests were held in 1948. They included: the 33rd Universal Congress of Esperanto, Malmö, Sweden, with over 2,000 delegates; the Workers' Esperanto Congress, Amsterdam, with 1,800 delegates; international Esperanto youth camps at Garmisch-Partenkirchen (American zone of Germany) and at Groet (Netherlands), with more than 400 participants; the Danube Valley Esperanto Conference, Budapest; the 38th Congress of the Esperanto Association of North America, Toronto, Canada.

About 70 books in and about Esperanto were published in 1948. The most important were: *Esperanto: The World Interlanguage*, by G. A. and D. T. Connor, W. Solzbacher, and J. B. Se-Tsien Kao, an encyclopedic handbook of the language problem and the practical uses of Esperanto, in English; *Sinopse Estatística do Brasil*, a volume published by the Brazilian Government's Institute of Geography and Statistics, with text in Portuguese, English, and Esperanto; *Sep Fratoj* (Seven Brothers), by Aleksis Kivi, Esperanto translation of a strikingly interesting Finnish novel, published at Helsinki; *Leteroj de L. L. Zamenhof* (Letters

of L. L. Zamenhof), first volume, with comments by Professor G. Wariughien, Paris, containing valuable documents on the early history of Esperanto.

The network of "delegates" of the Universal Esperanto Association (UEA), with headquarters at Rickmansworth, England, and Geneva, Switzerland, consisted in 1948 of 2,438 delegates in 56 countries. "Delegates" render practical services in connection with travel, business, or any other field of interest where the language barrier is acutely felt. The United States is represented on the "Komitato de UEA" by George Alan Connor, New York City.

As in former years, several governments used Esperanto to make their countries better known abroad or to advertise the particular brand of politics which they represent. The New Zealand Government and the Danish Government issued film strips with Esperanto text, the Brazilian Government and the Brazilian State of Santa Catarina various statistical publications. The Prague Government had the new Czechoslovak Constitution translated into Esperanto and had 15,000 copies printed for world-wide distribution. The Polish Government subsidized a book in Esperanto on *Poland Today* (Nuntempa Pollando); the Bulgarian Government a richly illustrated magazine, *Internacia Kulturo*. On the other hand, "people's democracy," Eastern style, was being vigorously denounced by such periodicals as *Ukraina Esperantisto*, published by Ukrainian anti-Communist refugees.

The use of Esperanto for religious purposes has increased considerably. Several Protestant organizations distributed the Bible in Esperanto. A Catholic Esperanto Conference held at Rome Sept. 28, 1948, received a message of encouragement from Pope Pius XII. The International Committee for the Holy Year 1950 (which is expected to draw millions of Catholics from all over the world to the capital of Catholicism) decided to issue its *Pilgrim's Guide-Book* and other literature in Esperanto as well as in other languages. Religious literature in Esperanto published during 1948 represented Catholics, Protestants, Jews, Spiritualists, Moslems, Buddhists, Shintoists, and Bahais.

The linguistic institutions of the Esperanto movement were streamlined in 1948 by the merger of the former *Lingva Komitato* and *Esperantista Akademio* in a new body called *Akademio de Esperanto*. It supervises the linguistic development of Esperanto, decides on the official acceptance of new words, etc. It has headquarters at The Hague and numbers at present 47 members including three Americans: Dr. Walter S. Lippmann, New York; Dr. Ivy Kellerman Reed, Arlington, Va.; and Joseph R. Scherer, Los Angeles.

Esperanto is the only constructed Interlanguage in practical use. Several projects such as Occidental, Panamane, Latino Sine Flexione, and Inter-glossa were advocated by their authors and a few supporters on various occasions during 1948. There were also occasional suggestions that Esperanto should change its spelling or one or the other of its grammatical features.

Those using Esperanto have persistently replied to all such suggestions by the same argument which was stated as early as 1922 in the League of Nations Report on "Esperanto as an International Auxiliary Language" (adopted by the Third Assembly of the League): "A study of the history of the proposed reforms . . . which are in many points contradictory, leads to a fear that if a new committee of theorists met today . . . it would propose further modifications which, in their turn,

would be criticized at the end of a few years, and so on indefinitely.

"It is in the interest of the world to have one auxiliary language, not two or three, and, from a practical point of view, there is less risk in taking one of which some experience has been gained and which has already attained some tradition and a guarantee of lasting unity."

—WILLIAM SOLZBACHER

ESTONIA. A Baltic country in northeastern Europe, admitted into the Soviet Union on Aug. 3, 1940. Its status as the Estonian Soviet Socialist Republic has not been recognized either by Great Britain or the United States. Total area (1945): 18,525 square miles. Population (1944 est.): 1,131,000. Capital, Tallinn, population, 147,000 (1944). About 70 percent of the population is engaged in farming and dairying. Chief crops are potatoes, rye, oats, barley, and wheat. Butter is produced for export. The most important industrial products are textiles, paper, cement, and shale-oil. In the fourth Five-Year Plan, 3,500,000 rubles were appropriated for the development of Estonian industries. Finance (1947 est.): revenue 849,619,000 rubles; expenditure 922,601,000 rubles.

ETHIOPIA. An empire in northeast Africa, comprising the Abyssinian highlands and adjacent lowland areas to the east, south and west. Its area is around 350,000 square miles—some of the country's boundaries have not yet been delimited exactly.

Population. Estimates of Ethiopia's population vary widely, for there has never been a proper census. The figure is probably somewhere around 10 to 15 million. Addis Ababa (population 300,000) is the capital. Other important cities are Harar (pop. 25,000), Dire Dawa (pop. 30,000), Gondar, and Dessye. The Amharas, who have long constituted the ruling element in the empire, probably number less than 3,000,000. They speak various derivatives of the ancient Ge'ez, a Semitic language introduced from Southern Arabia. Amharic, the most widely used of these modern tongues, is the official language of the Imperial Government. However, various other languages are spoken by the majority of the people: Galla, Somali, Danakil, Arabic, etc.

Religion. The Amharas are Coptic Christians, as are some of the Gallas. The Somali, Danakil, many of the Gallas, and some of the peoples of southwest Ethiopia profess Islam. The city of Harar is the center of Moslem culture for the entire Horn of Africa. The Coptic Church is politically powerful and owns considerable tracts of land. The clergy is numerous, and in the aggregate represents a force opposing progress. Hitherto the Abuna, or head of the Ethiopian Church, has always been an Egyptian appointed and consecrated by the Coptic Patriarch of Alexandria. In the future, however, the archbishop will be a native Ethiopian. Non-Christian religions are not only tolerated, but the Government supports several Mohammedan schools.

Education. Elementary education is provided, primarily for boys, by government and mission schools in the principal cities. So great had been the disruption wrought by the Italian occupation that Ethiopia's educational facilities have had to be rebuilt virtually from the ground up. Many of the educated young men—perhaps as many as 80 percent of them—were killed by the Fascists as a matter of policy. In addition to numerous old-style Church schools, there were, by September, 1945, 171 modern government schools: 28 in Addis Ababa and 143 in the provinces. Those in the

capital included arts and crafts, teacher training, technical and commercial schools. The students attending government schools numbered 31,542.

Production. The small scale production of minerals includes platinum, gold, iron, mica, and rock salt. From time to time explorers and promoters have reported the discovery of deposits of coal, iron and oil. There is considerable potential water power in the rivers, notably the Blue Nile, but this can be harnessed only by sinking large amounts of capital—and the Ethiopian Government has been loath to open the country to foreign speculators.

Stock-raising and agriculture form the main occupations of the people. Both are conducted on rather primitive levels except where European influences have made themselves felt. Very little agricultural produce is exported, each region being largely self-sufficient. The Ethiopian Ministry of Agriculture provided the following estimates in 1945: wheat, 1,700,000 hectares and 420,000 tons of grain; barley, 1,300,000 hectares and 800,000 tons; maize, 1,500,000 hectares and 1,800,000 tons; giant millet, 3,000,000 hectares and 4,500,000 tons; cattle, 12,000,000; sheep and goats, 2,000,000; horses and mules, 2,000,000; camels, 500,000.

Foreign Trade. In 1946-47 imports were valued at £6,899,684; exports at £13,305,332 (excluding specie). Chief exports were cereals, coffee, hides and skins. Cotton goods accounted for 40 percent of all imports, others being salt, sugar, building materials, and manufactured goods.

Finance. For the fiscal year ended Sept. 10, 1945, revenue amounted to £3,933,803 (including a subsidy of £191,576 from the British government) and expenditure to £4,098,330.

Transportation. The only railway goes from Addis Ababa to Jibuti in French Somaliland, a distance of 486 miles. It is owned and operated by a French company. There are over 7,000 miles of roads.

Government. Ethiopia merits the title of empire because it consists of several ancient kingdoms (such as Tigré, Amhara, Shoa and Gojjam) and comprises peoples who are alien in race and culture to the politically dominant Abyssinians of the plateau. The creation of this empire was the work of several generations, reaching its apogee under Emperor Menelik II (1889-1913).

The political and social structure of Ethiopia is still largely feudal, though the present ruler—Emperor Haile Selassie I—has been making some headway against the entrenched conservatism of the aristocracy and the clergy. At least a nominal modification was introduced into the system of absolute monarchy when in July, 1931, Haile Selassie decreed the creation of a Parliament. This body, first convened in November, 1932, consisted of two houses—a Senate and a Chamber of Deputies—all of whose members were nominated and whose functions were merely advisory. The Senate consisted of 27 members chosen from the hereditary chiefs of the provinces, while the Deputies were selected by the Emperor from among civil and military officials. Prime Minister: Bitwoded Makonnen Endalkatchou.

Since his return from exile (May 5, 1941), Haile Selassie has resumed the process of strengthening the central administration and reforming that in the provinces. He has also called in numerous experts from Great Britain, the United States, Soviet Russia and other countries to give advice in various technical fields. He has further sought to create a corps of trained Ethiopians, especially from among the younger men, who will be loyal to him rather than to the feudal chiefs, and on whom he can rely to modernize his state.

Events, 1948. According to the Italian peace treaty that came into force on Sept. 15, 1947, the four principal Powers (the United States, Great Britain, France, and the U.S.S.R.) were given a year in which to agree on the disposition of the colonies in Africa to which Italy, in that treaty, had renounced sovereignty. A four-Power commission was therefore despatched to Somalia, Eritrea, and Libya to investigate conditions on the spot and report back, preferably with recommendations on which the Council of Ministers could act. This commission returned from its survey and drew up reports during the summer. However, they were unable to agree either as to the facts or on what recommendations to make. There were thus four separate reports submitted to the Council of Ministers.

This latter body met in Paris just before the September 15 deadline but was unable to reach any settlement. The issue was therefore, under the treaty stipulations, thrown into the lap of the United Nations General Assembly. No action was taken, however, by this body at its Paris meeting in the fall.

The Ethiopian government was, of course, intensely concerned that the two adjacent colonies of Eritrea and Somalia not be returned to Italy, either as an outright cession or by conferring on her a United Nations trusteeship for these two areas. Not only was Ethiopia opposed to Italy's return to East Africa in any form but she herself demanded that both colonies be ceded to her. Haile Selassie in particular protested against "appeasing Italy by returning Eritrea and Somaliland to it." On July 30 the Ethiopian representative, speaking before the four-Power commission in London, threatened that, if Italy were given the trusteeship to Eritrea and Somalia, his government would return and close her frontiers. Similar warnings were issued to the United Nations by Addis Ababa when the question went to the General Assembly.

In September reliable reports indicated that there was general agreement among the four Powers on allowing Italy to have a trusteeship over Somalia and permitting Ethiopia to acquire an outlet to the Red Sea through the Danakil country and the port of Assab. The British were said to favor giving most, if not all, of Eritrea to Ethiopia under some form of international supervision. The French and the Russians apparently wanted all of Eritrea except Assab and the Danakil area to become an Italian Trusteeship, with the Americans proposing the same solution except that Ethiopia be given a larger part of Eritrea.

Russian intentions toward Ethiopia remained somewhat of an enigma. A Soviet hospital, with 21 Russian doctors, operated in Addis Ababa, and feeble attempts at propaganda were observed. The Ethiopian government employed no Soviet advisers. Nevertheless, there were evidences that the Soviet government was feeling out the ground, economically and politically.

American relations with Ethiopia were complicated by two incidents. On September 13 the Ethiopian Minister in Washington, Ras Inru, was requested to leave the diplomatic section in Constitution Hall at a session of the American Association for the Advancement of Science addressed by President Truman. The Ethiopian Legation protested this insult and refused to accept the U.S. State Department's official explanation—that it was all just a "mistake." Earlier, in August, Governor Dewey had aroused the ire of the Ethiopian Legation by proposing that the former colonies of Italy be returned to her.

In general, however, relations between the two countries were cordial. Ethiopia naturally looked toward the United States for technical and financial assistance in addition to that which she was already receiving. She watched closely the development of the Stettinius scheme in Liberia. Meanwhile, the Sinclair Petroleum Company was preparing to drill for oil in the Ogaden. The Ethiopian government recruited a number of American and Canadian school teachers for its rapidly growing school system during the year.

United Nations agencies also lent a hand to improve conditions in the country. In January the Food and Agriculture Organization (FAO) was preparing to send out three experts in an effort to control animal diseases there. The Director General of this body, Sir John Boyd Orr, stated that "Ethiopia is one of the countries ripe for development. The application of modern science to open up the natural resources of Ethiopia would lead to a rapid increase in food production and a rise in the standard of living of the people." The World Health Organization (WHO), another UN agency, continued its very important work of surveying health and sanitary conditions in the country, and trying to improve them. In October it announced that the Ethiopian government had asked that the WHO mission stay through 1949.

By October 15 the British Administration of Italian Somaliland had completed the evacuation of the Ogaden which it had occupied under treaty with Ethiopia. Thereafter, the Ethiopian government was responsible for administering the area, which was an integral part of its territory. Early in the fall the authorities at Addis Ababa had to move troops into the northern part of Tigré province, adjacent to Eritrea, in order to quell an uprising said to have been caused by protests at high taxes.

ROMBER GALE WOOLBERT

EUROPE. A continent in the Eastern Hemisphere, with an area of about 3,079,000 square miles (excluding European U.S.S.R.) and a population estimated at 102,550,000 (excluding the population of European U.S.S.R.) on Jan. 1, 1940.

EUROPEAN RECOVERY PROGRAM (Marshall Plan). On Apr. 3, 1948, President Truman signed into law the Foreign Assistance Act of 1948, based on certain proposals outlined by Secretary of State Gen. George C. Marshall in an address at Harvard University ten months before. The 80th Congress, "... Recognizing the intimate economic and other relationships between the United States and the nations of Europe, and recognizing that disruption following in the wake of war is not contained by national frontiers . . ." had found that the existing situation in Europe "endangered the establishment of a lasting peace, [and] the general welfare and national interest of the United States . . ." and had sent the bill (now Public Law 472) to the President after four months' consideration.

The United States was now pledged "to sustain and strengthen principles of individual liberty, free institutions, and genuine independence in Europe through assistance to those countries of Europe which participate in a joint recovery program based upon self-help and mutual cooperation." "The destitute nations of western Europe, hungry for bread, lined up to accept (1) emergency food, (2) money for economic and industrial reconstruction, and (3) marriage with the United States, for better or for worse, in all decisions political, ideological, and economic. Less than three years after the end of actual fighting in World War II, Europe was in

fact split east and west, the countries clinging either to the Communist ideological line or to the United States money life-line.

The Economic Cooperation Administration (ECA) was the agency created to implement the Act. ECA "has the responsibility to promote through provision of aid under the Act and co-operation with the Organization for European Economic Cooperation (OEEC) and other international organizations the most effective use of the economic resources of the participating countries, looking toward their mutual economic recovery." ECA's first administrator was sworn in on April 9: Paul G. Hoffman, president of the Studebaker Corp. and a Republican, was given Cabinet rank.

One week later the temporary organization of the European countries, the CEEC (Committee for European Economic Cooperation, organized in the summer of 1947), was terminated and representatives of 16 nations and the occupying powers of western Germany signed at Paris a multilateral agreement for economic cooperation. A permanent body, the Organization for European Economic Cooperation, was immediately created, with headquarters in Paris, to develop and carry through with the assistance of the United States the combined program for the economic rehabilitation of the European nations. OEEC is an intergovernmental organization headed by a council of ministers—representatives of the western European governments participating in the Recovery Program. The council is a policy-making body, under which is an executive committee consisting of elected experts from ERP countries.

The Program. ERP manifests three broad aims:

1. To promote industrial and agricultural production in the participating countries;

2. To further the restoration or maintenance of the soundness of European currencies, budgets, and finances; and

3. To facilitate and stimulate the growth of international trade of participating countries with one another and with other countries by appropriate measures, including reduction of barriers which may hamper trade.

The Program thus embraces the whole range of economic activities involved in the effort of participating nations to achieve a status of self-support. The attainment of this economic goal requires many fundamental and far-reaching actions on the part of the European governments—including some readjustments which, while bringing the countries to U.S. ground economically, will mean serious rupture of ideologies perhaps native to the countries, certainly strange to the United States, and probably not worth a World War III.

Under the Program each nation determines its goals within the framework of a common plan taking into account the economic capacity of Europe as a whole. Each country assumes the responsibility for planning for comprehensive and cooperative action with respect to agricultural and industrial production, finance, and trade.

Specific Aims. Improvement in the European standard of living is the most important element in the reconstruction project. Also upon the living standard hinges the productive capacity of the workers, and price stability is closely related to it. Although under ERP plans consumption levels of the populations were to remain, in 1948-1949, still appreciably below the prewar figures, there was anticipated, on the whole, a slight improvement over 1947, and the position of countries whose consumption level was seriously low in 1947 was to be somewhat alleviated.

1. Per capita consumption of bread grains was expected to increase by an average of 19 percent in relation to 1947, while still remaining 10 percent lower than that of 1935-1938. The position of certain countries, such as France or Belgium, whose position was particularly bad in 1947 (when per capita consumption had fallen to 50 percent of the prewar level), was expected to be improved.

2. There was to be practically no change compared with 1947 in the consumption level of meat, which would remain 35 percent lower than that of prewar. Certain countries whose situation, again, was particularly bad in 1947 should show an improvement, e.g. Austria where the level was only 30 percent of that before the war, and Italy where it was only 60 percent. Consumption of meat in the Bizone would continue at about 25 percent of prewar.

3. For fats and oils, an average increase of 15 percent over 1947 consumption would still leave the general consumption level at 20 percent below that of 1935-1938. The increase would be more marked in Austria and Belgium whose 1947 consumption levels were only 35 and 60 percent, respectively, of prewar. The Bizone consumption of fats and oils was to be increased by 50 percent compared with 1947 and would thus reach a level approximately 32 percent of prewar.

4. Consumption of sugar, generally speaking, was to remain the same as in 1947. It would increase in Austria, the Bizone, and Iceland, where the consumption in 1947 was 30, 65, and 80 percent, respectively, of prewar.

5. For tobacco, an increase in average consumption per head was expected to reach a level above the prewar average. There was to be a marked increase in the Bizone, Austria, and Belgium, where consumption in 1947 was 25, 35, and 70 percent of prewar.

6. There was anticipated no increase in the consumption of textiles in 1948-1949 as compared with 1947.

Progress in 1948. As 1948 closes, an analysis of reports from the 17 participating countries reveals that:

1. Total output of mines and factories in ERP countries during the third quarter of 1948 was 10 percent above the 1947 rate and nearly equal to the 1938 rate.

2. Excluding the depressed output of western Germany, steel operations were well above the 1938 rate, and equaled the prewar high of 1937.

3. Production of cement, a basic construction material, is far ahead of prewar in every country except Italy and western Germany.

4. Total electric-power production in ERP countries, excluding Germany, is 50 percent above prewar, and railway freight traffic is up about one third.

5. Agricultural crop yields in 1948 are estimated at 20 percent above 1947, though still below prewar.

The position of the consumer has not, however, improved as much as the over-all increase in output might indicate. A larger proportion of available resources is now being channeled into investment than before the war. Consequently, the increases in output have been greater in the capital-goods industries than in the consumer-goods industries. In addition, part of the farm output is being used to build up depleted herds and to reduce imports.

The supply of food and clothing, while greater than a year ago, remains below prewar. In contrast to the gains in such industries as steel and cement, textile output falls short of the prewar average by

25 percent. The food supply has improved over the preceding year but in caloric content is about 5 percent below prewar. In terms of quality and variety the comparison with prewar is still more unfavorable.

While postwar trade recovery has lagged behind production, the ability of western Europe to pay for imports is improving, as exports in 1948 generally increased along with production. Excluding western Germany, the volume of exports and imports now approximates prewar levels. Exports of the most important trading nation, the United Kingdom, have expanded rapidly over the year, reaching a level of 40 percent above prewar in the third quarter of 1948. Imports have been held to 18 percent below the prewar volume. In other countries, however, exports have increased less or have actually declined, and the total remains considerably smaller than before the war. Imports of these countries have generally been falling off over the past year, but are still above prewar levels.

These shifts in trade are reflected, in part, in some reduction in trade deficits through the first three quarters of 1948. An outstanding development was the narrowing of the very large trade deficit with the United States. This was mostly due to a reduction in imports, but a small increase in much-needed exports to the United States helped. Expansion and redirection of trade among the participating countries and with other parts of the world remains a major obstacle to recovery.

ERP ALLOTMENTS AND PROCUREMENT
(Thousands of dollars)

Country	Allotments made through March, 1949	Procurement Authorizations through Dec. 31, 1948
Total, all countries.....	\$4,901,400	\$4,044,800
Austria.....	220,800	212,500
Belgium-Luxembourg....	218,100	134,900
Denmark.....	100,000	91,100
France.....	1,058,500	951,000
Germany.....		
Bizonia.....	416,100	336,900
French Zone.....	92,300	63,300
Greece.....	172,000	145,700
Iceland.....	10,300	5,400
Ireland.....	80,000	51,600
Italy.....	571,500	494,200
Netherlands.....	475,500	371,700
Norway.....	81,800	68,000
Sweden.....	40,800	10,000
Trieste.....	18,200	9,500
Turkey.....	15,700	1,700
United Kingdom.....	1,320,800	1,093,400

Progress toward monetary stability and the more efficient use of manpower have contributed to the improvement in production and trade. With few exceptions, the participating countries have achieved some success in coping with the disruptive effects of inflation. Rises in both prices and the money supply slowed down significantly in most countries during 1948. Improvements in living conditions, transportation, and supplies of materials and fuels are permitting increased output per worker, although productivity has not generally regained prewar levels. The wartime dislocation of the labor force has been largely overcome, but scattered labor shortages hinder expansion in production. On the other hand, unemployment is serious in Italy and Greece and among displaced persons.

The gains achieved by the participating countries in the early phases of the European Recovery Program must be set against the longer-run task of recovery and stability. To realize this goal, new levels and relationships between production, trade, and consumption are required. While the recovery

trends are encouraging, the participating countries still have many difficulties to overcome before a satisfactory balancing of international accounts is achieved.

EXECUTIVE OFFICE OF THE PRESIDENT. Under authority of the Reorganization Act of 1939 and in accordance with the President's Reorganization Plans No. I and No. II, various agencies were transferred to the Executive Office of the President. The Office now includes: The White House Office, Bureau of the Budget, Liaison Office for Personnel Management, Office for Emergency Management, Council of Economic Advisers, National Security Council, and the National Security Resources Board. Executive Order No. 8248 of Sept. 8, 1939, established the divisions and defined their functions with the exception of: The Council of Economic Advisers which was established by Public Law 304 79th Congress; the National Security Council and the National Security Resources Board which were established by Public Law 253 80th Congress.

EXPLORATION. The year saw numerous expeditions in the field; scientific expeditions in search of prehistoric man, archaeological expeditions to copy the text of the Rosetta Stone, and marine expeditions for the study of the ocean floor. The Antarctic had expeditions from nearly all the countries involved in the Falkland Islands dispute, and Denmark had 14 groups exploring in Greenland.

Africa. One of the largest scientific expeditions ever undertaken is the University of California expedition in Africa. The group of 40 scientists, organized by Wendell Phillips, a young paleontologist on the staff of the university's Museum of Paleontology, represents an investment of \$500,000. The scientists are divided into three groups for study in South Africa, the Kalahari Desert, and North and East Africa. A progress report of 14 months' work in the field, made in November, 1948, reveals numerous finds to shed added light on early civilizations and the origin of man. Among them were a school of fossil whales, a primitive Kenya tribe that lived on a diet of blood and milk, and pygmies and Watusi warriors 8 ft. tall living within a few miles of each other. Evidence was also found that Moses did not lead the Exodus across the Red Sea, but across Reed Sea, to the north. Skeletons of Stone Age man were found in Turkana.

Scientists from Greenwich Observatory reported a solar eclipse in Kenya on Nov. 1, 1948. A brilliant, long-tailed comet was seen by RAF observers during the totality.

The Belgian Congo expedition from the N.Y. Zoological Society yielded rare specimens for their collections, including 3 Congo peafowl (afropavos) and 2 elephant shrews. The Carpenter Expedition worked in the Lake Victoria region; its animal specimens go to the Philadelphia Academy of Natural Sciences.

Asia. Dr. Dillon Ripley of Yale University headed an expedition to Nepal, in search of mammals, birds, and fresh-water fish to complete the American collection relating to the zoology of the Indian continent. Jointly sponsored by the Smithsonian Institution and the National Geographic Society, the expedition planned to be in the field for six months. Dr. Ripley left for India Oct. 6, 1948.

An expedition sponsored jointly by the American Schools of Oriental Research and the University of Michigan went to Iran for the purpose of copying and photographing the inscriptions of the Rosetta Stone of Western Asia. The expedition leader is

Dr. George C. Cameron, professor of Near Eastern Culture at the University of Michigan.

Australia. The 1948 Archbold Cape York Expedition of the Museum of Natural History left for Australia on Jan. 24, 1948. This is the Museum's first major expedition to the Cape York area.

Arctic. Most exciting news from the Arctic during the past year was the discovery, on Aug. 3, 1948, of a cairn at Cape Sheridan on Ellismere Land, left by Comdr. Peary in 1905. A joint Canadian-American weather expedition, Task Force 80, made the discovery of the cairn from a helicopter. The find included a bottle with notes signed by Comdr. Peary and Sir George Nares.

A party of Canadians headed by Paul Serson went to the Arctic to determine the exact position of the magnetic pole. Their observations seemed to confirm the observations made in the previous year, that the magnetic pole is on the northwestern part of Prince of Wales Island. A Canadian survey expedition discovered two hitherto unknown islands off the west coast of Baffin Land, in the Fox Basin. This discovery adds some 5,000 square miles to Canadian territory.

Expeditions to Greenland included the 27th Arctic trip by Donald B. Macmillan to the northwest coast, where he and his University of Michigan co-workers continued their meteorological studies. Of the 14 expeditions sponsored by Denmark for mapping and scientific purposes, the most important was that led by the veteran Greenland explorer Dr. Lauge Koch to the northeast coast. In the region of King Oscar Fjord at Lat. 72° N., uranium deposits in large enough amounts for exploitation were found. Pure lead ore was also found in a deposit estimated at 1 million tons.

Paul-Emile Victor headed a large French expedition to the west coast of Greenland. Preliminary work was done along the west coast in the summer of 1948. A permanent base will be established on the icecap in 1949. The 3-year program is termed purely scientific and includes traversing the icecap between Lat. 60° N. and 80° N.

Antarctic. A French expedition left France on November 26 for Adelie Land. Organized by Victor and led by André Lotard, the 48-man party will survey the coast and explore the interior of the plateau. During the year the British Falkland Dependencies Survey completed work on its seven permanent bases and laid plans for the construction of an eighth base on Alexander I Land.

In January a Chilean naval expedition left for Antarctica to establish a base on Graham Land, Chile's third base in the Antarctic territory claimed by Great Britain. Meanwhile the Argentine High Seas Fleet sent its Task Force I to Antarctic waters for maneuvers. Chile's president, Gabriel Gonzales Videla, went to Deception Island in February, and with appropriate ceremonies claimed for Chile land now under dispute between Great Britain, Argentina, and Chile.

In August, the United States Government proposed the establishment of international control over Antarctica to solve the long-standing international problem created by the overlapping claims of seven nations. Informal discussions have been held with the respective countries, namely Argentina, Australia, Chile, France, Great Britain, New Zealand, and Norway.

The Ronne Antarctic Expedition returned to the United States in April. During the year's sojourn on the Palmer Peninsula, the party mapped some 450,000 square miles along the southern shore of Weddell Sea and established that Antarctica is a solid continent.

South America. The International Institute of the Hylean Amazon was set up by UNESCO in 1948. Headquarters of the Institute were established at Manaos, the former wild-rubber center of Brazil. Preliminary investigations were to include physical geography, biology, social sciences, agriculture, and nutrition.

An ethnological expedition to French Guiana was co-sponsored by the French Government and UNESCO. Captain Hassoldt Davis and his wife returned in November, 1948, from their six-month trip, during which they had made a 500-mile trek to the headwaters of the Maroni River.

Marine. The Swedish Deep Sea Expedition led by professor Hans Pettersson in the *M/S Albatross* completed (in September) a 15-month worldwide study of the deep sea. This was the first such expedition since that of the British in the *Challenger* (1871-76). The journey covered about 44,000 nautical miles, sediment cores were taken from ocean bottoms, and soundings exceeding 25,000 feet taken over the Romanche Deep near the Atlantic Ridge. Trawling was carried out below the 5,500 fathom line and new specimens were taken.

Accompanied by 5 Belgian and French scientists the Piccard-Cosyns expedition left Antwerp on September 15. In a so-called "bathyscope" Piccard and Cosyns planned to descend some 2½ miles below the surface of the sea in the Gulf of Guiana, off the west coast of Africa. The first descent was made by Professor Piccard and a companion on October 26, when a depth of 82 feet was attained during an 18-minute submersion. In a second, and unmanned dive, the bathyscope successfully reached a depth of 4,250 feet, but serious damage to the superstructure prevented any further experiments, and the expedition was terminated.

EXPORT-IMPORT BANK OF WASHINGTON (EIB). Created in 1934, the Bank operates as an independent agency of the U.S. Government under the Export-Import Bank Act of 1945, as amended. The purpose of the Bank is to aid in the financing of the exports and imports of the United States.

The Act of 1945 vested the management of the Bank in a board of directors consisting of the Secretary of State and four full-time directors appointed by the President by and with the advice and consent of the Senate. It also authorized an increase in the limit on outstanding loans and guaranties from \$700 million to \$3,500 million and removed the prohibition on loans by the Bank to governments in default on their obligations to the U.S. Government.

This increase in the lending authority of the Bank enabled it during the early postwar period to extend long-term reconstruction credits to liberated and war-devastated countries to assist them in purchasing from the United States the equipment, materials and services required for the restoration of their economies.

The Bank is authorized to do a general banking business in the field of United States foreign trade; aiding, supplementing and not competing with private capital. It can extend credits to domestic and foreign private entities and to foreign governments where United States trade is involved.

The Bank finances specific export and import transactions on application of U.S. exporters and importers where the nature of the risk involved is such that private credit cannot be obtained. It makes loans to assist in financing the export of U.S. materials and equipment required for development projects in foreign countries. It also arranges in favor of foreign purchasers credits which are avail-

able on equal terms to all qualified U.S. exporters to finance the sale of export staples such as raw cotton.

The cumulative total of credit authorizations increased from approximately \$4,134 million at the close of 1947 to approximately \$4,272 million at the close of 1948. Disbursements during 1948 were approximately \$429 million and repayments were approximately \$261 million. Accordingly, the outstanding loans of the Bank increased from approximately \$1,971 million at the end of 1947 to approximately \$2,139 million at the end of 1948.

—SUNNY SNAWWOOD

EXTENSION SERVICE. A branch of the U.S. Department of Agriculture, functioning in accordance with the Act of May 8, 1914 (Smith-Lever Act). The Extension Service office is composed of administrative and professional personnel serving as the liaison between departmental research and action agencies and the administrative and extension subject-matter staffs at the respective State land grant colleges. County agricultural, home demonstration, and 4-H club agents are located in nearly all the agricultural counties of the United States. These county extension agents make available to farmers, farm homemakers, and rural youth the results of research conducted by the U.S. Department of Agriculture, the land-grant colleges, and other research agencies. Of the total money that is put into the cooperative Extension Service the Federal government furnishes about 46 percent and the States and counties supply the balance. Director of Extension Work: M. L. Wilson.

FAEROES. A group of 21 islands in the Atlantic Ocean, north of Scotland, constituting a self governing community of the Danish Commonwealth. Chief islands: Bordö, Kalsö, Osterö, Sandö, Strömö, Süderö, Vagö, and Vidlerö. Total area: 510 square miles. Population (1945 census): 29,198. Capital, Thorshavn (on Strömö), 3,611 inhabitants. Fishing is the principal occupation. Exports include fish, whale oil, woolen goods, lambskins, feathers.

Events, 1948. The great event of the year for the Faeroese was the granting of home rule to the islands in April. Henceforth, laws concerning the islands exclusively must be passed by the local Lagting (parliament) before being signed by the King. The Faeroes will continue to send 2 representatives to the Danish *Riksdag* (parliament). The Faero language has been declared official and the islands will have their own flag.

FALK FOUNDATION, The Maurice and Laura. Established by Maurice Falk in 1929 with the provision that principal, as well as income, must be used within 35 years for such efforts to advance general welfare as the Foundation's Board of Managers might select. The Foundation concentrates on economic research grants for studies of specific problems affecting the progress of the domestic economy of the United States.

In 1948 grants totaled \$390,500. The principal appropriations in 1948 were allotments of \$225,000 to the American Law Institute for studies to recommend changes in the legal structure of the Federal income-tax law; and \$75,000 to the Alfred P. Sloan Foundation, Inc., to share that organization's support of efforts to develop motion picture techniques for presenting economic information. Grants outside the field of economics included allotments to the American Red Cross, United Jewish Fund, and the Community Chest of Allegheny County, Pa.

Economic studies published in 1948, under grants made in earlier years, included: *Governmental Costs and Tax Levels, Inflation While Bargaining, Economic Systems, Our National Debt and Life Insurance, and Our National Debt and the National Welfare*. Chairman of the Board of Managers: Leon Falk, Jr.; Executive Director, J. Steel Gow. Offices: 1911 Farmers Bank Building, Pittsburgh, Pa.

FALKLAND ISLANDS. A British crown colony in the South Atlantic, 480 miles northeast of Cape Horn, South America. Area, 4,618 square miles; population (1946 census) 2,239. Capital: Stanley (on East Falkland), 1,250 inhabitants. Chief occupation of the people is sheep farming. Wool is the principal product but tallow and hides are also exported. The number of sheep in 1946 totaled 619,449. Imports (1946) totaled \$221,559; exports, \$293,913. Finance (1946): \$198,879 for revenue and \$222,164 for expenditure. The administration is headed by a governor, assisted by an Executive Council and a Legislative Council. Governor: G. Miles Clifford (appointed 1946).

Dependencies. These include all islands and territories between 30° and 50° W., south of 50° S., and between 50° and 50° W., south of 58° S. The chief divisions are South Georgia (1,450 sq. mi.; pop. 360, in 1944), South Shetlands, South Orkneys, South Sandwich Islands, and Graham Land. Estimated population (1944) 360. Whaling is the chief industry. During 1946, exports from the dependencies totaled \$931,176, more than 50 percent of which went to the United Kingdom. Finance (1946): revenue \$119,084; expenditure \$281,660.

FARM CREDIT ADMINISTRATION (FCA). This branch of the United States Department of Agriculture supervises a complete and coordinated cooperative credit system for farmers and farmers' business cooperatives in the United States and Puerto Rico. The United States is divided into 12 farm credit districts. In one city in each district are a Federal land bank, a Federal intermediate credit bank, a production credit corporation, and a bank for cooperatives. The island of Puerto Rico is included in the Baltimore Farm Credit Administration district.

Farmers obtain long-term farm mortgage (land bank) loans through local national farm loan associations (except in Puerto Rico where loans are made direct); and loans for production of crops and livestock from local production credit associations. Loans to farmers' cooperatives for operating capital, to finance commodities stored, and for facilities are made by the 12 district banks for cooperatives or, if large regional cooperatives, by the Central Bank for Cooperatives in Washington, D.C.

In the year ended Dec. 31, 1948, farmers and farmers' cooperatives, in the United States and Puerto Rico obtained \$1,749,949,000 in credit from the institutions and associations operating under the supervision of the Farm Credit Administration. Included in this amount were loans totaling \$92,131,000 made by the production credit associations, long-term farm mortgage loans amounting to \$150,530,831 made by Federal land banks through local national farm loan associations, and \$491,675,000 in credit extended by the 13 banks for cooperatives. The 12 Federal intermediate credit banks acting as banks of discount for the production credit associations, banks for cooperatives, and other lenders on agricultural security, made loans and discounts totaling \$1,546,083,000 in 1948.

A farmer who obtains a land bank loan through a national farm loan association becomes a member and buys stock in the association equal to 5 percent of his loan. The association, in turn, invests this money in land bank stock. Borrowers in Puerto Rico buy stock directly in the Baltimore Federal Land Bank. Borrowers from production credit associations also must be members and own stock in their associations equal to 5 percent of their loans. A farmer cooperative borrowing from one of the 13 banks for cooperatives also must own stock in the bank from which it obtains its loan.

Capital stock owned by farmers and farmers' cooperatives in all Farm Credit institutions and associations went from \$116,459,698 on Dec. 31, 1947, to \$128,138,804 on Dec. 31, 1948, an increase of 10 percent. Capital stock owned by members of production credit associations went from \$46,488,483 on Dec. 31, 1947, to \$56,842,038 on Dec. 31, 1948. At the end of the year 52 production credit associations were completely farmer-owned. Capital stock in the 13 banks for cooperatives owned by farmers' cooperatives in the year went from \$13,016,700 to \$15,379,000. Capital stock of the 12 Federal land banks totaled \$55,917,766 on Dec. 31, 1948, all of which was owned by farmer-borrowers either direct or through their national farm loan associations.

Aside from the credit extended through the district offices and associations and by the Central Bank for Cooperatives, the Regional Agricultural Credit Corporation of Washington, D.C., and the Agricultural Marketing Act Revolving Fund have some loans outstanding. The Farm Credit Administration also has a Cooperative Research and Service Division which is engaged in research and service activities helpful to farmers' cooperatives. Governor in 1948: I. W. Duggan.

FARMERS HOME ADMINISTRATION. This agency of the U.S. Department of Agriculture makes loans to assist farm families who cannot obtain credit elsewhere on reasonable rates and terms. Veterans have preference.

In 1948, through October, 112,000 farm-operating loans were made for livestock, machinery and other essentials, and 2,000 loans were made for the purchase, enlargement or development of family-type farms. Also, 430 farm ownership loans advanced by private lenders were insured by the agency. Water facilities loans were made in the West to 786 individual farmers and 24 farmers' groups. Two hundred emergency loans were made from a special appropriation to aid farmers who suffered losses from the 1948 floods.

Veterans who are becoming established in agriculture received 45 percent of the money loaned. The amount paid by all borrowers on past loans far exceeded the \$81,500,000 advanced during the ten months.

County supervisors assisted borrowers to plan and carry out successful farming operations and provide a better living for their families. Their reports showed gains in crop diversification, new sources of income, and widespread adoption of modern practices on the farms. The average borrower has more working capital and higher net worth than before receiving a loan.

FASHIONS. The year 1948 saw designers adapting 1947's New Look along practical lines, modifying it, preserving the grace, but not the cumbersomeness of the previous year's models. Skirts grew slimmer and daytime hemlines rose from the radical 11 inches to a more sensible 13 or 14 inches

from the ground. Evening hemlines on the popular semiformal gowns still hovered over the ankles, however.

In general, 1948 was a year of dress-up fashions. Stress on femininity in styling, richness of fabrics, and elegance in accessories predominated. Necklines plunged, occasionally to the waist, or were scooped out into the "bateau" or boat-shaped outline. Shoulders were rounded and narrow—the "sloping shoulder" completely replaced squared-off, masculine padding. Back fullness was a notable feature of coat and dress styles. Dresses and suits had a maximum of tasteful detailing—graceful drapings of fabric, shawl necklines, unusual button treatments, accordion pleatings. Hemline flounces recalled the frills of Gay Nineties' dress. Elaborate fabrics, e.g. iridescent taffetas, bengalines, satins, tissue failles and tie silks, achieved almost universal popularity.

Hats again became important after the no-hat trend of previous years. Small bejewelled hats were the rule, perhaps to accommodate the new short hairdos, cropped and curled about mid-ear. Spring hat specialty was the straw "rooftop of Paris" hat—a small, flat ledge of a bonnet, veiled and bowed under the chin. Berets were the biggest all-year fashion, usually brightened by a jewelled emblem or tiny pins added by the wearer herself. Velour, satin, and velvet hats were common, with feathers almost indispensable on fall and winter styles.

Victorian influence was strong in early-year fashions. The stole completely captured feminine imagination and was adopted for casual and formal wear. Fur stoles were all-important; wool, chiffon, silk, and rayon stoles were so popular as separate accessories that dress manufacturers made dresses with stoles to match. Many women knitted their own stoles. Scarfs, too, were worn in every shape and manner; small scarfs were considered smartest.

The Victorian influence was also apparent in handbags. Dainty tapestry and brocade bags were important even for daytime wear. Women's umbrellas took on a nineteenth century air. The long slim walking-stick-handle umbrella was the most chic; parasol umbrellas with ruffles galore were the gayest. Borrowed, too, from grandmother's day were petticoats deliberately designed to hang below the fuller skirts. These were concocted of bright plaid taffetas, of lacy and beribboned cottons, of silks and rayons.

The 1948 cosmetic colors were predominantly pinks. Demure feminine fashions made the brazen reds passé; the sought-after "fragile look" called for pale-hued lipstick, nail polish, and the faintest blush of rouge.

Shoe silhouettes really introduced innovations. Unusually low-cut vamps were the rage, best typified by the "shell shoe," a minimum of shoe whittled down almost to the toes. The curved Louis heel (copied from the Louis XIV court shoe) was a favorite feature of higher priced shoes, but was not much in evidence in the lower price lines. Balletina shoes modeled after ballet slippers were a favorite until fall, when their advocates weakened, probably due to general masculine disapproval. The opera pump with a pointed toe was the most widely accepted shoe of the year. Low heels were popular with all age groups—usually in dressy styles with low-cut V-vamps, scalloped insteps, leather lacings. The ankle-strap shoe remained a best-seller; open-toe shoes disappeared almost completely.

Straw basket handbags with fabric drawstring tops were an outstanding spring and summer fashion, especially appropriate when worn with casual

bareback-plus-holero dresses. Summer brought such a wave of gold accessories that the season was often tagged "The Gold Rush of 1948." Gold handbags, shoes, and belts were worn in the cities as well as resort areas, by day and by night. Even bathing suits were shot with gold-colored threads. Silver and bronze accessories appeared.

Tiny scatter pins were the biggest jewelry fad of the year. Flowers and geometrics of simulated pearl and gold, stone-studded bugs, butterflies, and animals were important motifs. Women wore groups of them on suits, hats, handbags, and scarfs. In tune with the elegance and party-like atmosphere of most dresses, simulated pearl jewelry was enormously popular. Long rope necklaces and high chokers were the smartest, but almost every style—and color—of pearl jewelry was worn.

New emphasis on ladylike manners greatly curbed the bareleg boom which had harassed stocking manufacturers during recent years. Most every woman wore her nylon stockings all-year-round. Dark shades—off black, particularly—were in demand. Colored nylons, especially navy and green, were popular in some sections.

September brought an onrush of bogus leopard accessories. Leopard-stencilled velvet, silk, and cotton plush was employed in every conceivable form. Imitation leopard scarfs, stoles, muffs, gloves, belts, and ear-muffs flooded the fashion scene. Entire skirts bore the leopard imprint—raincoats, even lounging robes, showed their spots.

Fall and winter dress fashions were inspired to a great extent by the French Empire period. The high waistline, low-cut neckline, and emphasized bosom which Napoleon's Josephine popularized returned to grace daytime and evening gowns. Needless to say, lingerie played its part in creating the Empire illusion. Half-bras and waistlets were important props for the new silhouette.

Introduction of tweed into fall dress styles was immediately popular. Wool or wool-and-rayon tweeds were usually enriched with velvet-trim. Wool jersey was in great demand for casual wear. Blouse interpretations varied from one extreme—the plunging neckline jersey—to the other, the high "stove-pipe" neckline blouse that buttoned tightly under the chin.

Fall and winter coats were often overshadowed by their own collars. Large shawl collars, sometimes proportioned to cape size, swept elegantly about fur and cloth coats. The reverse fashion, tiny-fur-collar styles, were equally in vogue. Typical of these were the poised, small ermine collar and cuff coats. Recent experimentation in mink mutations produced an amazing range of new mink shades—from blue toned to platinum mink. Black Persian, however, was unchallenged as the year's most popular fur. The stole, the short cape, and the three-quarter coat were highly featured fur silhouettes.

Paris continued to dictate fashion news. In November of 1948, however, Christian Dior, a leading French designer, opened a New York office to wholesale his American-designed fashions. Fashion analysts considered the event significant of the growing importance of New York City as an independent fashion center. —JANE E. COLLINS

FEDERAL BUREAU OF INVESTIGATION (FBI). This Bureau, established in 1908 by Attorney General Charles J. Bonaparte, is the investigative arm of the U.S. Department of Justice. Originally known as the Bureau of Investigation, on July 1, 1935, by Congressional enactment, the name Federal Bureau of Investigation was adopted.

The jurisdiction of the Federal Bureau of Investigation extends generally to all Federal crimes not specifically assigned to another agency of the Federal Government. Specifically it is charged with the duty of investigating violations of the laws of the United States, collecting evidence in cases in which the United States is or may be a party in interest, and performing other duties imposed upon it by law.

The headquarters of the FBI is located in the Department of Justice Building in Washington, D.C. Field offices are located in strategic cities throughout the United States and its Territorial Possessions. In addition to the administrative offices it maintains in Washington its Identification Division, the FBI Laboratory, the FBI National Academy, and the Uniform Crime Reporting facilities.

The Identification Division serves as a repository for identification data and today maintains the largest collection of fingerprint records in the world. Established in 1924 with a nucleus of 810,188 sets of fingerprints, the Division as of December, 1948, contained more than 111 million sets. The number of fingerprints received in the Division increased from 87,918 in the fiscal year 1924 to 28,733,286 in the peak year of 1943. A total of 5,134,307 sets of fingerprints were received from 12,080 contributors during the 1948 fiscal year. Seventy-eight foreign countries, Territories, and Possessions of the United States cooperated in the International Exchange of fingerprint data during the 1948 fiscal year. At the end of that year the Division had notations in its files indicating that 97,798 fugitives were "wanted" by law enforcement agencies.

The FBI Laboratory, established on Nov. 24, 1932, with one technician and a single microscope, now utilizes valuable precision equipment and employs technicians schooled in 88 branches of science or its subdivisions. The FBI Laboratory serves as a scientific aid in crime detection, its facilities being available without charge to duly constituted law enforcement agencies which may submit evidence to it for scientific examination and analysis. Research is conducted to further aid law enforcement. Techniques developed and perfected in connection with wartime work are presently being adapted to the examination of evidence in criminal cases.

During the 1948 fiscal year 17,471 requests for assistance were made of the Laboratory, 11,843 being in connection with FBI investigations, 368 from other Federal agencies, and the remaining 5,700 from non-Federal law enforcement agencies throughout the nation in connection with the investigation of criminal matters. In connection with these requests the Laboratory received 63,868 specimens of evidence for examination, 46,420 of them in connection with FBI work, 1,659 of them from other Federal agencies, and 15,789 from non-Federal agencies. These specimens required 74,596 scientific examinations of various types, the submission of written reports, testimony in 207 cases, and depositions in lieu of testimony in 7 cases.

The FBI National Academy, founded in July, 1935, is concerned primarily with the training of police instructors and administrators. Applicants for attendance are carefully selected from local, county, and state law enforcement agencies. The Academy offers a 12-week course three times each year. The faculty and facilities used in the training of FBI Agents are utilized, and, in addition, persons in highly specialized fields serve as guest lecturers.

The first ten weeks of training are devoted to a general course in law enforcement. In the final

two weeks the men take specialized training in subjects selected by the heads of their respective departments. Among the graduates of the Academy are representatives from every state in the Union, from the United States Territorial Possessions and from several foreign countries. With the graduation of the Thirty-ninth session of the Academy in October, 1948, the total number of graduates reached 1,913. It is estimated that the training given these men has been made available locally to more than 100,000 police officers.

The type of training afforded in the FBI National Academy is made available locally to law enforcement officers through the medium of FBI Field Police-Training Schools. In all 51 field divisions of the FBI there are specially trained agents who, in addition to their regular investigative duties, act as instructors and course planners for training schools established by municipal, county, or state law enforcement agencies.

The initiative in setting up schools is taken by the local agencies and the FBI participates only upon specific request. Normally most of the instruction is given by FBI agents and FBI National Academy graduates. In a number of instances schools devoted exclusively to fingerprint work were conducted by special agents who are experts in this field. In the 1948 fiscal year the FBI participated in 1,237 local police-training schools with an estimated attendance of 61,850 officers.

In its Uniform Crime Reporting project the FBI, at the request of the International Association of Chiefs of Police and pursuant to an Act of Congress, acts as a central clearinghouse for police statistics on a nation-wide basis. Monthly and annual crime reports forwarded to the FBI reflecting information as to the number of persons arrested, the number found guilty, and related crime data, are summarized and published in the Uniform Crime Reports bulletin. The bulletin, which is published semiannually, also contains information concerning the age, sex, race, and previous criminal history of persons arrested throughout the United States as reflected by the fingerprint cards received in the Identification Division.

The responsibility of the FBI in the criminal field includes the enforcement of such laws as the Federal Bank Robbery Act, National Motor Vehicle Theft Act, Federal Kidnaping Act, National Stolen Property Act, White Slave Traffic Act, Theft from Interstate Shipment Statute, and many others.

All of the 33 kidnaping cases over which the FBI had jurisdiction during the 1948 fiscal year were solved. Sentences of 462 years, 2 days, and 1 life term resulted from the 51 convictions in this category. Since the passing of the Federal Kidnaping Statute in June, 1932, the FBI has investigated 351 kidnapings. Of this number 349 have been solved and the remaining two are still under active investigation.

During the 1948 fiscal year there were 84 robberies, 77 burglaries, and 31 larcenies in banks within the FBI investigative jurisdiction. During this period there were 99 convictions, and sentences imposed totaled 954 years, 11 months, and 21 days. Fines amounting to \$31,673 were levied. Savings and recoveries effected amounted to \$184,517.

During the 1948 fiscal year there were 11,262 automobiles recovered in National Motor Vehicle Theft cases investigated by the FBI. This Act, which became effective on Oct. 29, 1919, provides punishment for persons who transport in interstate commerce any motor vehicle which they know to be stolen. On Sept. 24, 1945, the Act was amended

to include aircraft. A total of 4,452 convictions resulted from cases in this category investigated by the FBI. Sentences totaled 12,155 years, 6 months, and 18 days. Fines in the amount of \$82,831 were levied and savings and recoveries amounted to \$13,403,893.

Criminal activities involving theft from interstate shipment continued to be a serious menace during the 1948 fiscal year. The investigation of crimes in this category by the FBI resulted in 973 convictions during this period. Total sentences imposed amounted to 2,359 years and 20 days. Fines of \$62,797 were levied and savings and recoveries totaled \$606,561.

The National Stolen Property Act makes it a Federal offense to transport in interstate or foreign commerce any stolen goods valued at \$5,000 or more. It also provides punishment for the interstate transportation of any altered, falsely made, forged, or counterfeit security of any value, and it has a pledging section covering stolen property valued at \$500 or more, which is transported across state lines and pledged. The number of convictions during the 1948 fiscal year more than doubled that of the previous year.

Among those brought to trial in FBI cases were many professional confidence men, jewel thieves, and fraudulent check artists who were operating on a nation-wide basis. There were 345 convictions in the past fiscal year, with prison sentences totaling 1,071 years, 10 months, and 19 days. Fines totaled \$24,652. Savings and recoveries effected amounted to \$192,186.

The Federal Extortion Statute makes it a Federal offense to send through the mail or to transmit interstate by any means a communication threatening to kill, kidnap, or injure an individual or his property, or demanding ransom for the release of a kidnaped person. Since the Act was passed on July 8, 1932, 1,284 convictions have resulted from investigations conducted by the FBI. During the 1948 fiscal year there were 89 convictions, with sentences totaling 282 years, 6 months, and 5 days. Fines levied amounted to \$3,401.

The FBI, since September, 1939, has had the primary responsibility of collecting information relating to the general internal security of the Nation. During the 1948 fiscal year, the FBI handled an unusually large volume of work in this field, collecting and disseminating to other government agencies security information relating to their official interest. Special security operations handled by the FBI largely involve applicant and employee investigations. The bulk of the work derives from Acts of Congress or Presidential Orders in which the FBI is specifically designated to make security, character, or loyalty checks. Most notable of these are the Atomic Energy Act of 1946 and the Federal Employee Loyalty Program.

The Atomic Energy Act of 1946 approved by the President on Aug. 1, 1946, gives the FBI responsibility for determining the character, association, and loyalty of all Atomic Energy Commission employees and applicants and of all other persons having access to restricted Atomic Energy data. The FBI is also responsible for investigating all alleged criminal violations of the Act. At the close of the 1948 fiscal year the program of investigating incumbent employees of the Atomic Energy Commission and of contractors' employees who had access to restricted data was more than 95 percent complete.

On Mar. 21, 1947, the President signed Executive Order Number 9385 outlining procedures for the administration of a Loyalty Program covering

all civilian employees and applicants in the Executive Branch of the Government. This order was implemented by a Congressional Act on July 24, 1947. The FBI was required to search through its files the names and fingerprints of all employees and applicants for positions in the Executive Branch of the Government and to report any information indicating disloyalty to the American form of government which is found. If a search discloses information of this type, the FBI conducts full field investigations. The facts collected are reported without bias, conclusions, or recommendations.

It is the responsibility of the employing agency and the Loyalty Hearing Boards to weigh the facts and to take or decline administrative action. In the 11 month period from Aug. 1, 1947, to June 30, 1948, a total of 2,020,975 loyalty forms on employees and applicants were processed. Full field investigations were ordered in 5,510 cases. Of the 2,682 investigations completed there were 438 cases where employees resigned during investigation. Processing forms on individuals applying for government jobs will continue.

As a result of FBI investigations during the 1948 fiscal year, there were a total of 9,966 convictions. These resulted in sentences of 24,671 years, 4 months, and 14 days. In addition there were 6 death and 10 life sentences. There were 5,250 fugitives located in all cases investigated by the FBI. Of all persons brought to court in FBI cases, 97.1 percent were convicted, 93.3 percent of the convictions being on pleas of guilty. During the 1948 fiscal year as a result of FBI investigative activity returns to the taxpayers totaling \$54,327,283 were effected in fines, savings, recoveries, and Renegotiation Act claims adjusted in favor of the government. This figure exceeds by more than \$5 million the entire cost of all FBI operations during the 1948 fiscal year.

- JOHN EDGAR HOOVER

FEDERAL COMMUNICATIONS COMMISSION (FCC). Federal Communications Commission activities in 1948 were highlighted by review and revamping of existing radio services in an effort to find spectrum space to meet mounting demands for frequencies. The Commission also played an increasingly active role in world conferences to standardize practices and usages in international communications.

International interest was focused on 35 radio and other sessions, held or proposed, to enable various nations to work out mutual communications problems. Most of these stem from the International Telecommunications Conferences of 1947, which rewrote previous world agreements in the light of developments. Besides doing a large share of the preliminary work, the Commission furnished delegates or advisers to these sessions.

Domestic regulation involved 676,000 radio authorizations of all kinds. Of this number, 535,000 were radio operators, and 141,000 were radio stations. Not included in the station figures were about 150,000 mobile units associated with various nonbroadcast services. Applications relating to radio exceeded 200,000.

Broadcast authorizations exceeded 4,000. The older standard (AM) commercial service led with more than 2,100, followed by nearly 1,000 frequency modulation (FM) stations, and 125 television (TV) stations. The remainder comprised international, educational, facsimile, experimental and developmental stations. Texas and California led all States in the number of commercial broadcast station authorizations.

The period since Jan. 1, 1948, witnessed a sudden surge in TV applications. The latter exceeded

the presently available frequencies. As a result, the Commission on September 29 withheld action on TV applications pending a determination of the possible use of higher frequencies for television and to resolve current interference to TV stations in the present band.

FM service continued to expand with the result that its static-free high fidelity programs can now be heard in most of the populous areas of the country.

AM broadcast income in 1947 (the most recent year for which statistics were available) was less than the year previous, though the major networks showed a gain. Slightly more than 1,100 AM stations were affiliated with the four nation-wide networks, and there were more than a score of regional AM networks. Under the impetus of rebroadcast opportunities and expanding coaxial cable and microwave facilities, FM and TV networks were developing. Broadcast receivers of all types were nearing the 75,000,000 mark.

Noncommercial educational broadcast station authorizations were nearing 50, and international broadcast stations (under State Department supervision) remained at 37. Rules to permit low-powered educational FM broadcasting became effective September 27.

Facsimile made its debut as a regular broadcast service on July 15, 1948, when its operation over FM stations was authorized. It had previously been on an experimental basis.

Safety and special radio services numbered some 136,000 authorizations, including over 81,000 amateur stations. A new highway maintenance service was inaugurated during the year. The largest increase took place in the aeronautical field, which had some 25,000 stations. Marine services accounted for 17,200 ship and shore stations. Public safety stations—such as police, fire, forestry, highway and special emergency, numbered 5,150. There were about 3,600 railroad transit, utility, bus and taxicab stations. Petroleum, lumber and other industries accounted for 3,500.

A proposed Citizens Radio Service, which will permit the use of small transmitter receivers by individuals, awaited final rule-making. New classes of Industrial and Land Transportation services are in prospect.

Common carrier services had more than a thousand radio authorizations, including 27 fixed public telephone and 56 public telegraph stations. Common carrier regulation by the Commission covers interstate and international service. More than 3,100 applications and nearly 30,000 tariff and other filings were received by the Commission in connection with this phase of its work.

Telephones in service exceeded 36,000,000. The Bell system handled 36,000,000,000 calls.

There were no material interstate rate reductions during the year. However, State utility commissions had since the war granted increases of \$138,000,000 in interstate rates, and requests for increases totaling \$66,000,000 were pending before those state bodies.

During the year the FCC authorized the use of telephone recording devices, with appropriate tone-warning signal, for interstate and international service.

Nearly 8,000 miles of coaxial cable, representing an investment of \$170,000,000, had been authorized for the Bell system. This cable can accommodate many types of communication services, including television.

Telephone carriers had made or were making mobile telephone service available in nearly 100

cities, and highway service was operating or planned in more than 130 areas.

Overseas telephone service was reestablished with four countries and inaugurated for the first time with seven other countries. About 570,000 overseas radiotelephone calls were handled as compared with 50,000 before the war.

Telegraph regulation dealt mainly with Western Union, which now has a monopoly in that field, and with international radio and cable telegraph carriers. Western Union was carrying out its \$72,000,000 mechanization program, including a microwave triangle connecting New York, Philadelphia, Washington and Pittsburgh.

Repeal, during the year, of the Post Roads Act resulted in the Federal Government losing the benefits of special telegraph rates on its domestic traffic.

Cable and radio telegraph carriers handled more than 656,000,000 paid words, of which more than half was outbound.

To meet the urgent revenue needs of international telegraph carriers, the Commission granted two outbound rate increases totaling \$8,673,000. The revised rates do not exceed 30 cents a word.

Radio operators in commercial service numbered 363,000 and amateurs exceeded 80,000. Special aircraft operator authorizations amounted to over 91,000. As a convenience to private flyers, the latter are issued at air fields.

Field engineering and monitoring activities, conducted through 33 field offices and 21 monitoring stations, dealt primarily with technical supervision of radio operation. Nearly 30,000 ship and land stations were inspected; 17,000 violation and other notices served; 22,000 interference cases handled, and 153 illicit operations detected and closed. Operator examinations, largely given in the field, approximated 100,000.

Technical studies covered possibilities of using higher frequencies, effects of wave propagation, skywave reflections, ground conductivity, signal intensity, harmonics, directional antennas, etc.

Laboratory work centered on the testing of new equipment submitted by manufacturers for type approval prior to being placed on the market. In this way, many potential interference problems are dealt with before they materialize. Commission membership change during the year saw the induction of the first woman to serve as a member of the FCC—Miss Frieda B. Hennock.

—GEORGE O. GILLINGHAM

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA. An organization established in 1908 by 28 Protestant denominations to act for them in matters of common interest. The Council now includes most of the major Protestant denominations of the United States, and also 3 branches of the Eastern Orthodox Church.

Through Church World Service, Inc., created by joint action of the Council and the Foreign Missions Conference of North America, shipments of about one million dollars a month were made to Europe and Asia for distribution by church agencies. A new department of the Church and Economic Life was created. This was the outgrowth of a national study conference held in 1947.

Religious broadcasting over 3 national networks continued to be an important responsibility of the Council. In evangelism, special emphasis was given to interdenominational missions on college and university campuses. In the social service field major attention was given to family problems. A survey of the work of the Protestant churches for aged

was begun. The relation of the churches to international issues was a prominent objective of educational effort in the Council. Interracial cooperation and the rights of minority groups was also a main point of interest.

Publications: Information Service, Federal Council Bulletin (monthly), Interracial News Letter (bi-monthly), and Town and Country Church.

Officers: President, Charles P. Taft. Vice President, Bishop John S. Stamm. Treasurer, Harper Sibley. General Secretary, Rev. Samuel McCrea Cavert. National offices: 297 Fourth Ave., New York 10, N.Y.; also Woodward Building, Washington 5, D.C.

FEDERAL CROP INSURANCE CORPORATION. The Federal Crop Insurance Corporation, an agency of the U.S. Department of Agriculture, is devising a system of insurance protection for farmers against major crop losses from unavoidable production risks such as weather, insects, and plant diseases.

Considerable latitude is given the Corporation to experiment with plans and methods. The basic problem in developing a sound system of crop insurance is to attain the proper relationship on a long-range basis between protection provided and premiums paid. Premiums paid by farmers are used only to pay indemnities on crop losses with administrative funds provided by direct appropriation. Coverage on a farm for any crop may not exceed 75 percent of the average yield established for the farm or the general level of the cost of producing the crop in the area.

The 80th Congress amended the Federal Crop Insurance Act to establish a maximum number of counties in which insurance on each commodity may be offered. These maximums are 200 counties for wheat, 56 for cotton, 50 for corn, 50 for flax, 35 for tobacco, and 20 for any new trial programs that may be initiated.

FEDERAL DEPOSIT INSURANCE CORPORATION (FDIC). An independent agency of the U.S. Government, organized under the Banking Act of 1933 to insure the deposits of all banks which are entitled to the benefits of insurance under the law. The major functions of the Corporation are to pay off the depositors of insured banks closed without adequate provision having been made to pay claims of their depositors, to act as receiver for all suspended national banks and for suspended State banks when appointed by State authorities, and to prevent the continuance or development of unsafe and unsound banking practices. The Corporation may also make loans to or purchase assets from the insured banks when such loans or purchases will facilitate a merger or consolidation and will reduce the probable loss to the Corporation.

On June 30, 1948, total assets of the Corporation amounted to \$1,023,383,000. Liabilities amounted to \$5,966,000. Total capital and surplus of \$1,017,417,000 consisted of \$22,604,000 balance of the original capital of \$289,300,000 and an accumulated surplus of \$994,813,000. The original capital stock of the Corporation which had no vote and was not entitled to receive dividends, has been retired under provisions of Public Law 363 from the surplus of the Corporation in excess of \$1,000 million. On Sept. 9, 1947, the original subscription by the Federal Reserve banks, amounting to \$139,300,000 was retired in full and in addition, \$7,996,000 out of \$150 million of stock held by the United States Treasury was repaid. Additional payments in multiples of \$10 million were made as the money became available. On

Aug. 30, 1948, final payment of \$12,604,000 was made.

Of the 14,772 operating commercial banks and trust companies in the United States and possessions on June 30, 1948, deposits in 13,420 banks were insured by the Federal Deposit Insurance Corporation. Of the 532 mutual savings banks, 193 were insured by the Corporation.

Federal credit unions were supervised by the Federal Deposit Insurance Corporation from May 16, 1942, to July 29, 1948, when the supervision of all Federal credit unions was transferred to the Federal Security Agency. On June 30, 1948, there were 3,942 operating Federal credit unions. Share balances in credit unions have never been insured by the Corporation. Chairman in 1948: Maple T. Harl.

FEDERAL MEDIATION AND CONCILIATION SERVICE.

The Federal Mediation and Conciliation Service, an independent agency, was created by the Labor Management Relations Act, 1947. Principle objective of the Service is to prevent or minimize interruptions of the free flow of commerce growing out of labor-management disputes by assisting the parties to settle such disputes through conciliation and mediation.

In carrying out its duties the Service places primary emphasis upon the prevention of disputes and the promotion of the collective bargaining process. Normally, the Service provides mediation and conciliation services in specific disputes only when there is threatened such a significant interruption of commerce as clearly to require Federal intercession. Employers and unions are encouraged to resolve industrial differences by themselves with out the aid of the Federal Government.

Under section 8(d) of the Labor Management Relations Act, 1947, employers and unions are required to file with the Service a notice of every dispute affecting commerce not settled within 30 days after prior service of a notice to terminate or modify an existing contract. The parties are required at the same time to notify the respective state or territorial agency of the existence of such a dispute. The Service cooperates fully with state and other conciliation agencies and suggests to the parties the utilization of such facilities to the greatest possible extent.

The Labor Management Relations Act, 1947, also established the National Labor-Management Panel, the duty of which is to advise the Director of the Service on the avoidance of industrial controversies and the manner in which mediation and voluntary adjustment shall be administered, particularly with reference to controversies affecting the general welfare of the country.

The Service has a staff of about 240 active conciliators operating through twelve regional offices under the guidance of a very small national office staff.

During the calendar year 1948 the Service received approximately 20,000 calls for its services. Of this number only about 12,000 cases were properly within the jurisdiction of the Service.

FEDERAL POWER COMMISSION (FPC). An independent agency of the United States Government, first established in 1920, which has jurisdiction to license hydroelectric power projects on navigable waters of the United States or on public lands, to regulate electric utilities engaged in the transmission or sale at wholesale of electric energy in interstate commerce and natural-gas companies engaged in the transportation or sale of natural gas

for resale in interstate commerce. The Commission also has miscellaneous authority with respect to public power projects under the Bonneville Act, the Fort Peck Act, various rivers and harbors and flood control acts and other statutes and executive orders. Chairman: Nelson Lee Smith.

FEDERAL RESERVE SYSTEM. Board of Governors: Thomas B. McCabe, chairman; Marriner S. Eccles, M. S. Szyzmecak, Ernest C. Draper, R. M. Evans, James K. Vardaman, Jr., Lawrence Clayton. Address: Washington 25, D.C. Reserve Banks are maintained in Boston; New York; Philadelphia; Cleveland; Richmond; Atlanta; Chicago; St. Louis; Minneapolis; Kansas City, Mo.; Dallas; and San Francisco.

The Federal Reserve System was established (1913) under an Act of Congress for the purpose of providing a central supervisory authority over banking and currency. The System comprises the Board of Governors; the Federal Open Market Committee; 12 Federal Reserve Banks and their 24 branches situated in different sections of the country; and the Federal Advisory Council. All national banks are members, and State banks and trust companies which apply for and are admitted to membership upon complying with certain prescribed conditions.

The Board is composed of seven members appointed by the President and representing financial, agricultural, industrial and commercial interests from various sections of the country. No two members may be from the same Federal Reserve district. The principal duties of the Board consist of exerting an influence over credit conditions, in order to avoid injurious credit expansion or contraction, and, secondly, the Federal Reserve Banks and certain banks. It is authorized to change the requirements governing reserves maintained by member banks against deposits, and to review and determine the discount rates charged by the Federal Reserve Banks on their discounts and advances. To curb undue diversion of funds into speculative operations, the Board has authority to regulate the amount of credit that may be initially extended and subsequently maintained on any security (with certain exceptions) registered on a national securities exchange. Until June 30, 1949, the Board has authority to regulate the use of credit for installment buying.

Other duties of the Board include supervision of the issue and retirement of Federal Reserve notes; regulation of interest payments by member banks on time and savings deposits; and regulation of international or foreign banking by member banks. It has authority to remove officers and directors of member banks for continued violations of law or unsafe or unsound practices in conducting the business of their banks. It also may suspend member banks from the use of the credit facilities of the Reserve System for making undue use of bank credit for speculative purposes or for any other purpose considered inconsistent with the maintenance of sound credit conditions. To meet its expenses and pay the salaries of its members, the Board makes semiannual assessments upon the Reserve Banks in proportion to their capital stock and surplus.

The capital stock of the Reserve Banks is all "owned" by the member banks, as required by law, and may not be transferred or hypothecated. Member banks are required to buy stock of the Reserve Bank of their district in an amount equal to 3 percent of the subscribing bank's paid up capital and surplus. The Federal Reserve Banks

are primarily bankers' banks. Their principal activities consist of holding the reserves which member banks are required to maintain, supplying banks with currency and coin as needed, providing a nationwide check clearing and collection system, making loans to member banks, engaging in open market operations as referred to below, making transfers of funds by wire, and acting as depositaries and fiscal agents of the United States.

Federal Open Market Committee. All members of the Board of Governors of the Federal Reserve System also serve on the Federal Open Market Committee, whose membership also includes five representatives of the Reserve Banks. The Committee regulates open market operations conducted by the Reserve Banks with a view to accommodating commerce and business and with regard to their bearing upon the general credit situation of the country. These open market operations consist of the purchase and sale in the open market of Government obligations, certain other securities, and bills of exchange and bankers' acceptances eligible for discount by the Reserve Banks.

Federal Advisory Council. The Council is composed of 12 representative bankers, one from each Federal Reserve District, who are selected annually by the boards of directors of the respective Federal Reserve Banks. It meets in Washington at least four times a year and confers with the Board of Governors on business conditions and makes advisory recommendations to the Board regarding the affairs of the System.

FEDERAL SECURITY AGENCY (FSA). An Agency of the U.S. Government, established in 1939 to promote "social and economic security, educational opportunity, and the health of the citizens of the Nation." The constituent organizations of the Agency are the Office of Education; the Public Health Service (including Freedmen's Hospital); the Social Security Administration; the Office of Special Services, which includes the Food and Drug Administration, Office of Vocational Rehabilitation, and Bureau of Employees' Compensation; and Saint Elizabeths Hospital. The Agency also participates in the work of Howard University, the Columbia Institution for the Deaf, and the American Printing House for the Blind. Operations of the Agency are under the direction of the Federal Security Administrator.

On July 1, 1948, the United States Employment Service was transferred from the Department of Labor, and on July 29, the Federal Employees' Credit Unions from the Federal Deposit Insurance Corporation, to become part of the Social Security Administration.

A reorganization of the regional offices of all the constituent units resulted in the establishment on July 1, 1948, of a single system of 10 Federal Security Agency Regional Offices, each under the direction of a Federal Security Regional Director.

The FSA's Office of Education is charged by Congress "to collect and diffuse educational facts and statistics to show the condition and progress of education" and "to promote the cause of education throughout the country." For the fall of 1948, it reported a record school and college enrollment of nearly 32 million. Peak enrollments will continue through 1956, when high birth-rates during and after the war will swell the total by 7 million. High schools graduated 1,056,000 this year, the highest number since before the war.

Emphasis in elementary schools was on building curricula around the needs of the children rather

than around formal discussion matter. At the secondary school level, the stress was on "life adjustment education for youth" to reach the 60 percent of high school students not going on to college or into a skilled trade. There was also stimulation of citizenship education through a Nation-wide Zeal for American Democracy program, and promotion of school health, guidance, and adult education programs. The Federal-State program of aid to vocational education continued during the year.

Progress was impeded by the teacher shortage, which was especially acute at the elementary level and in rural areas. The need for more buildings to accommodate growing school and college enrollments, and for properly lighted, well-equipped classrooms to serve modern education needs was emphasized. There was continued effort to make the public more aware of school conditions, to recruit more and better-qualified teachers, and to improve education generally.

For the operations of the FSA's Public Health Service during fiscal 1947-48, Congress provided almost \$192.5 million. Of this amount, almost \$114.5 million was for grants-in-aid to States; \$3.6 million to schools of nursing; \$12.3 million to universities and institutions for research and fellowship programs; \$2.7 million to initiate construction of a clinical research center; and nearly \$60 million for programs operated directly by the Service.

The Water Pollution Control Act, approved June 30, 1948, established a Federal-State-municipal program to combat the increasing pollution of interstate waters. Among its provisions is authorization for the next five years of an annual appropriation of \$22.5 million to be used for loans for the construction of necessary sewage treatment works.

During the year, a major control program was initiated in mental health. This supplemented the special control programs already active in cancer, venereal disease, tuberculosis, and industrial hygiene, and the general control programs supported with grants-in-aid money. As a part of the tuberculosis control program, assistance was given in a series of mass case-finding surveys, in which over a million X-rays were taken.

Emphasis in the venereal disease control program was in assisting States in the operation of rapid-treatment centers employing penicillin therapy, and in improving case-finding methods. In dental health, the effectiveness of the topical fluoride technique in reducing dental caries in children was established. As a result, Congress appropriated \$1 million, beginning July 1, 1948, to provide for a number of topical fluoride demonstration units in the States.

The expansion of research activities in particular diseases resulted in changing the name of the National Institute of Health to "National Institutes of Health." These now include the National Heart Institute and National Institute of Dental Research, which were established by Congress in 1948, as well as the National Cancer Institute and the Experimental Biology and Medicine Institute. For fiscal year 1947-48, Congress increased the Cancer Institute's appropriation to \$14 million, compared with \$4.3 million, the previous year. A new provision provided for expanded Federal aid for teaching about cancer in professional schools.

Among the achievements of research workers in the Service during the year were the isolation of one specific virus causing the common cold; demonstration that the addition of niacin to the diet of animals resulted in the correction of certain blood diseases; development of promising drugs and antibiotics for the treatment of tuberculosis; discovery,

in the testing of many synthesized chemical compounds, of 50 chemotherapeutic agents that produced destructive effects on tumors in mice; and demonstration of significant reductions in the incidence of diarrhea through effective hy control.

During the year, the National Mental Hygiene Program was enabled to increase its assistance to schools for the training of psychiatrists, psychologists, and other personnel.

In 1948, the construction phase of the program authorized by the Hospital Survey and Construction Act of 1946 gained momentum. Plans of 52 States and Territories had been submitted and approved. The Act authorizes approximately \$75 million annually to assist States and communities in the survey and construction of hospitals and health centers.

Under the social security program, there was an increase in the number of recipients of old-age and survivors insurance, which is financed by payroll deductions on both employers and workers. In July, 1948, the number of recipients was 2,182,000, compared with 1,855,000 at the same time in 1947. About 87 million workers are in jobs covered by the law; about 23 million are still in uninsured jobs.

Principally because of the high cost of living, the number of recipients of public assistance, which is financed jointly by the Federal Government and the States, remained high. Many recipients of old-age and survivors insurance found it necessary to turn to public assistance for supplemental help. Recipients of the three types of public assistance (old-age assistance, aid to dependent children, and aid to the blind) in September, 1948, totaled 3,691,517, compared with 3,415,282, one year prior. During 1947-48, some 3.8 million workers received benefits under the unemployment insurance program, averaging around \$18 a week for 11 weeks.

The Children's Bureau continued its function of investigating and reporting "upon all matters pertaining to the welfare of children and child life among all classes of our people," and of administering Federal grants to the States to assist them in developing State and local services for children. In 1948, these grants, which supplement State and local expenditures for this purpose, totaled \$22 million, which included \$11 million for maternal and child health services; \$7.5 million for services for crippled children; and \$3.5 million for child welfare services. The Bureau published a widely used series of bulletins for parents, including *Infant Care*, *Your Child From One to Six*, *Your Child From Six to Twelve*, and *Guiding the Adolescent*.

The year 1948 was the most successful in the 28-year history of the State-Federal program of vocational rehabilitation. A record high of 53,000 disabled men and women were fully rehabilitated to gainful employment; another 9,000 were awaiting only a final decision that they and their employers were mutually satisfied; and a third group of over 7,000 were ready to enter self-sustaining employment. Earnings of rehabilitants rose from \$17 million annually before to \$86 million the first year after rehabilitation services. In the past five years, these services resulted in an estimated increase of \$900 million in earned income for rehabilitated persons, who paid an estimated \$75 million into the Federal Treasury in income taxes alone.

During fiscal year 1947-48, the FSA's Food and Drug Administration examined nearly 50,000 samples of foods, drugs, and cosmetics shipped in interstate commerce and conducted some 13,000 factory inspections to determine compliance with the

law. It initiated over 1,600 court actions through the Department of Justice, involving food adulteration, harmful drugs, and cosmetics, and false and misleading labeling. It reported the greatest number of substantial fines ever assessed by Federal courts in such cases. Of particular importance were a Supreme Court decision in January, 1948, and an amendment to the Food, Drug, and Cosmetic Act in June, 1948, which established the jurisdiction of the Act to carry its protective features through to the ultimate consumer.

The continuing concern of the Federal Security Agency is for the conservation and development of the human resources of the Nation. Its success is measured by the extent to which the Nation can provide for its citizens opportunities for education, safeguards against sickness and disease, and protection against the uncertainties of employment and the economic hazards of disability and old age.

OSCAR R. EWING

FEDERAL SUPPLY, Bureau of. A Bureau of the U.S. Treasury Department which determines policies and methods of procurement, warehousing, and distribution of supplies, materials, equipment, and services for Federal establishments. It procures, inspects, stores and distributes such items for Federal establishments through its central office in Washington and its nine Supply Centers and two branch Supply Centers located in Boston, New York, Atlanta, Cleveland, Chicago, Kansas City, Fort Worth, Denver, Los Angeles, San Francisco and Seattle. In addition it prepares purchasing standards, such as Federal Specifications, and standard forms of contract, for use of Federal establishments; purchases strategic and critical materials for inclusion in the National stockpile and controls the distribution of surplus personal property of Federal establishments. The Bureau also makes purchases of a large variety of commodities for the relief and rehabilitation of countries devastated by the war. Director, Bureau of Federal Supply: Clifton E. Mack.

FEDERAL TRADE COMMISSION (FTC). An administrative agency of the U.S. Government, established in 1914, and consisting of five Commissioners appointed by the President with the advice and consent of the Senate. It administers the Federal Trade Commission Act; certain sections of the Clayton Antitrust Act, as amended by the Robinson-Patman Act; the Wool Products Labeling Act; the Export Trade Act; and certain sections of the Lanham Trade-Mark Act. Under these statutes, the duties of the Commission, in general, are: (1) to promote free and fair competition in interstate trade in the interest of the public through prevention of price-fixing agreements or combinations, boycotts, injurious price and other unlawful discriminations, and other practices which are in restraint of trade or which otherwise constitute unfair methods of competition or unfair or deceptive acts or practices; (2) to safeguard the consuming public by preventing the dissemination of false advertisements, including those relating to food, drugs, cosmetics and therapeutic devices which may be injurious to health; (3) to protect industry, trade and the consumer against the unrevealed presence of substitutes and mixtures in wool products; (4) to supervise the operations of export trade associations granted exemption from the antitrust laws; (5) to apply to the Commissioner of Patents for cancellation of trade-marks obtained fraudulently or in violation of other provisions of law; and (6) to conduct investigations of economic conditions

in interstate and foreign commerce and to make the resulting facts available to the President, the Congress and the public.

During the fiscal year 1948 the Commission issued 70 formal complaints alleging violations of the laws under its jurisdiction, entered 73 orders to cease and desist from proved violations, and accepted 110 stipulations in which respondents voluntarily agreed to discontinue unlawful practices. Trade practice rules, by which unfair practices may be eliminated voluntarily on an industry-wide basis, were promulgated for the watch case, office machine marketing, wholesale confectionery and hand knitting yarn industries.

Reports to Congress covered investigations of the merger movement; steel cartels; international electrical equipment cartel; and manufacture and distribution of farm implements. The Commission also continued, in collaboration with the Securities and Exchange Commission, the publication of quarterly reports disclosing the financial characteristics and operating results of American manufacturing corporations. Chairman (1948): Robert E. Freer. Other Commissioners: Garland S. Ferguson, Edwin L. Davis, William A. Ayres and Lowell B. Mason.

FEDERAL WORKS AGENCY (FWA). An agency of the U.S. Government comprising three constituents which are concerned with the provision and financing of public works and services, namely, Public Buildings Administration, Public Roads Administration, and the Bureau of Community Facilities. Six projects of the former Public Works Administration are now in process of liquidation in the Office of the Federal Works Administrator. Administrator in 1948: Maj. Gen. Philip B. Fleming.

FENCING. Spirited competition in sectional and national meets, which served as trials for the Olympics, marked the sport in 1948. See OLYMPIC GAMES.

Nathaniel Lubell of the Fencers Club, New York, won national foil honors. Norman Lewis of Salle Santelli, New York, led the epee stars and Dean Cetrulo of Salle Santelli took the saber crown. Team champions were New York A.C., foil; Salle Santelli, epee, saber, and three-weapon.

Mrs. Helena Dow of the Fencers Club retained the women's national title, the Faulkner School of Fencing, Hollywood, Calif., capturing team honors. Diane Greenberg, New York University star, won national intercollegiate laurels as Hunter College kept the team championship. Estelle Osher of Brooklyn College successfully defended her Intercollegiate Women's Fencing Association laurels.

City College of New York and the Naval Academy just about monopolized the men's intercollegiate trophies. In the National Collegiate Athletic Association championships, the winners were Albert Axelrod, C.C.N.Y., foil; Bill Bryan, Navy, epee; Jim Day, Navy, saber, and C.C.N.Y., team. Intercollegiate Fencing Association victors were Axelrod, foil; C.C.N.Y., foil team; Bob Kaplan, New York University, epee; Navy, epee team; Day, saber; Navy, saber team, and C.C.N.Y., three-weapon.

—THOMAS V. HANEY

FIJI. A British colony in the South Pacific, due east of northern Australia, consisting of some 250 islands, about 80 of which are inhabited, and the dependent island of Rotuma. Total area: 7,083 square miles, of which Viti Levu, the largest island, occupies 4,053 square miles. Population (1946 census): 259,638 (incl. Rotuma). Capital: Suva (pop. 15,-

522). Education (1946): 450 schools of all kinds, with 36,804 pupils. The European and Fijian population is predominantly Christian, with the Methodist Church numerically the strongest. Most of the Indians (120,414) are Hindus.

Bananas, coconuts, maize, sugar cane, rice, and tobacco are the principal products. Valuable woods are obtained in some of the southern islands. A number of factories process the island's products, but it is necessary to import clothing, tools, and machines. Trade (1947): imports £5,078,272; exports £6,067,989. Finance (1948 est.): revenue £2,157,000; expenditure £1,982,000.

Fiji is administered by a governor, assisted by an Executive Council and a Legislative Council. The governor is High Commissioner for the Western Pacific. Self-government is maintained through the Council of Chiefs. Governor: Sir B. Freeston.

FILIPINO REHABILITATION COMMISSION. A Commission created by Act of Congress, approved June 29, 1944, to investigate and formulate recommendations on all matters affecting postwar economy, trade, finance, economic stability, and rehabilitation of the Philippine Islands, including the matter of damages to public and private property and to persons occasioned by enemy attack and occupation. Chairman, Millard E. Tydings (United States); Vice Chairman, Brig. Gen. Carlos P. Romulo.

FINANCIAL REVIEW. The financial situation in 1948 was again dominated by the business boom and the continued upward trend of commodity prices for a good part of the year. As a result, the requirements of business for capital for plant and equipment, inventories, and credit to customers was almost at the high level of the preceding year. The major part (65 percent) of the funds needed by business for expansion and working capital continued to come from internal resources, in the form of undistributed profits and depreciation allowances.

Of the external sources, bonds were more important and bank loans and stock issues less important than in 1947. A large proportion of the outside financing came from institutional investors, principally insurance companies, which sold government bonds to the Federal Reserve Banks and used the proceeds to buy corporate and municipal issues and mortgages. The support of the government bond market by the monetary authorities resulted in a continued low level of interest rates and bond yields.

The Stock Market. As during the preceding year, stock prices in 1948 continued to move within a narrow range and to exhibit a number of temporary swings in either direction. Favorable influences on prices included the reduction in Federal income tax rates, larger expenditures for foreign aid, and the prospects of increased outlays for national defense. These factors were largely offset, however, by the deflationary influences of the disturbed international situation, further anti-inflationary measures of the monetary authorities, and the renewed fears of a business recession.

The average closing prices were somewhat less than at the end of 1947, and on the whole, the ratio of prices to earnings remained surprisingly low. The yield on industrial common stocks in December (as measured by Standard and Poor's index) was 6.19 percent, the highest in six years. This figure was 50 percent above the average return on preferred stocks and more than twice the yield on high grade bonds. The ratio of stock to bond yields was nearly the highest on record.

After showing a decline early in the year, stock prices rose by about a fifth between February and June and then retreated about a tenth during the following three months. A rally in October lifted prices about 5 percent, but the liquidation that took place after election, because of the expectation of unfavorable repercussions on the stock market, again caused a sharp decline. Together with the customary year-end selling for the purpose of establishing losses for income tax deductions, it brought about a drop of nearly 10 percent in one month. In December the trend was again reversed, resulting in recovery of about half of the losses.

In the early months, the volume of trading on the New York Stock Exchange generally averaged less than one million shares daily but during the subsequent period of rising prices it increased, reaching an average of nearly two million shares a day in May. The turnover then fell off, remaining at about a million shares or under during most of the summer. During the upturn in October, the decline in November and the subsequent improvement the volume was maintained at about one million shares a day or slightly higher.

For the year as a whole, the volume of trading, 302 million shares, was 19 percent above the total recorded in 1947 but considerably below the 1945 and 1946 figures. Stock transactions on the New York Curb Exchange totaled 75 million shares, somewhat above the volume of the previous year.

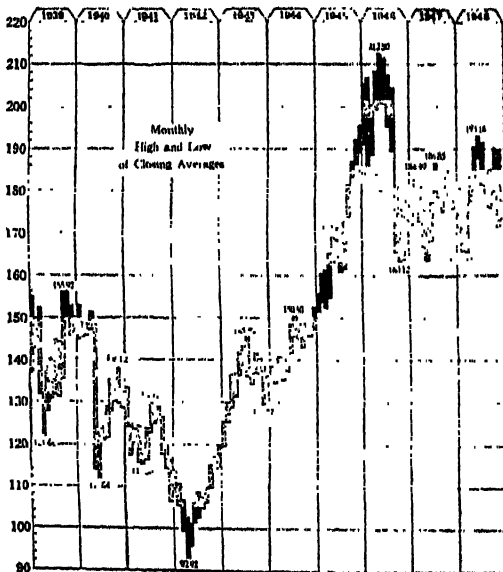
Although on the whole stock values showed a slight decline during the year, several industry groups registered substantial advances. For the most part, these were in the heavy industry or transportation fields, including railroad, aircraft, shipbuilding, electrical equipment, steel, copper, lead and zinc, petroleum, and coal stocks. The favorable showing of these groups reflected the larger defense orders and the heavy demand for metals and fuels.

trend evidenced the slackened demand in some of the consumer goods and service industries and the expectation of lower farm income in 1949.

The price range of active stocks on the New York Stock Exchange is shown in Table I.

TABLE I. PRICE RANGE OF ACTIVE STOCKS, 1948

Stock	High	Low	Close	Net Change
Air. Airlin.	10	6 1/2	7 1/2	+1 1/2
Am. Radi. & T.S.	10 1/2	10 1/2	11 1/2	+1
Am. Tel. & Tel.	158	147 1/2	150 1/2	+3 1/2
Anacosta Cop.	31 1/2	30 1/2	33 1/2	+3
Armour & Co.	15 1/2	14 1/2	16 1/2	+2
Aveo Mfg.	7 1/2	7 1/2	8 1/2	+1
Balt. & Ohio	10 1/2	10 1/2	10 1/2	+1 1/2
Beth. Steel	39 1/2	38 1/2	40 1/2	+2
Canad. Pacifc	19 1/2	19 1/2	20 1/2	+1 1/2
Chesapeake Corp.	30 1/2	29 1/2	31 1/2	+2
Ches. & Ohio	15 1/2	15 1/2	16 1/2	+1 1/2
Chesapeake Corp.	14 1/2	14 1/2	15 1/2	+1 1/2
Ch. M. S. & P.	13 1/2	13 1/2	14 1/2	+1 1/2
Chrysler Corp.	65 1/2	60 1/2	55 1/2	-10 1/2
Colum. Gas	14 1/2	14 1/2	15 1/2	+1 1/2
Com. W. & S. South	3 1/2	3 1/2	3 1/2	+1 1/2
Cor. N. & W.	16 1/2	16 1/2	17 1/2	+1 1/2
Cont. Motors	10 1/2	10 1/2	11 1/2	+1 1/2
Coca-Cola	12 1/2	12 1/2	13 1/2	+1 1/2
Du Pont de S.	158 1/2	161 1/2	181 1/2	+23 1/2
Elec. R. R.	16 1/2	16 1/2	17 1/2	+1 1/2
Gen. Tel. & Tel.	11 1/2	11 1/2	12 1/2	+1 1/2
Gen. Elec.	4 1/2	4 1/2	5 1/2	+1 1/2
Gen. Motors	66 1/2	60 1/2	58 1/2	-8 1/2
Gen. Pub. Util.	14 1/2	14 1/2	15 1/2	+1 1/2
Goodman T. & R. Co.	106 1/2	96 1/2	100 1/2	-6 1/2
Graham Page Mod.	2 1/2	2 1/2	2 1/2	+1 1/2
Greyhound Corp.	13 1/2	13 1/2	14 1/2	+1 1/2
Gulf Oil	8 1/2	8 1/2	9 1/2	+1 1/2
Ill. Cent.	12 1/2	12 1/2	13 1/2	+1 1/2
Int. Nick. Can.	31 1/2	31 1/2	32 1/2	+1 1/2
Int. Tel. & Tel.	16 1/2	16 1/2	17 1/2	+1 1/2
Kennecott Cop.	60 1/2	60 1/2	61 1/2	+1 1/2
Loew's Inc.	20 1/2	19 1/2	20 1/2	+1 1/2
N. & W. Ind. Corp.	21 1/2	21 1/2	22 1/2	+1 1/2
N. & W. Ind. Corp.	21 1/2	21 1/2	22 1/2	+1 1/2
N. Y. Cent. & H. R.	18 1/2	18 1/2	19 1/2	+1 1/2
N. Y. Ch. & S. I. Co.	14 1/2	14 1/2	15 1/2	+1 1/2
No. Am. Vanhook	13 1/2	13 1/2	14 1/2	+1 1/2
North Amer. Co.	17 1/2	17 1/2	18 1/2	+1 1/2
Northern Pacifc	27 1/2	27 1/2	28 1/2	+1 1/2
Ohio Oil	43 1/2	43 1/2	44 1/2	+1 1/2
Packard Motor	5 1/2	5 1/2	6 1/2	+1 1/2
Pan. Am. Airways	11 1/2	11 1/2	12 1/2	+1 1/2
Penn. Pictures	26 1/2	26 1/2	27 1/2	+1 1/2
Penn. R. R.	22 1/2	22 1/2	23 1/2	+1 1/2
Pepsi Cola	24 1/2	24 1/2	25 1/2	+1 1/2
Pure Oil	12 1/2	12 1/2	13 1/2	+1 1/2
Radio Corp.	15 1/2	15 1/2	16 1/2	+1 1/2
Refr. Equip. Co.	33 1/2	33 1/2	34 1/2	+1 1/2
R. R. Corp.	8 1/2	8 1/2	9 1/2	+1 1/2
S. E. Ind. Corp.	19 1/2	19 1/2	20 1/2	+1 1/2
St. Regis Pape.	16 1/2	16 1/2	17 1/2	+1 1/2
Schenley Dist.	13 1/2	13 1/2	14 1/2	+1 1/2
Seam. Roebuck	13 1/2	13 1/2	14 1/2	+1 1/2
Shelby Oil	32 1/2	32 1/2	33 1/2	+1 1/2
Socomey Vacuum	23 1/2	23 1/2	24 1/2	+1 1/2
Southern Pacifc	62 1/2	62 1/2	63 1/2	+1 1/2
Stand. Oil N. J.	92 1/2	92 1/2	93 1/2	+1 1/2
Studebaker Corp.	29 1/2	29 1/2	30 1/2	+1 1/2
Summit Oil	12 1/2	12 1/2	13 1/2	+1 1/2
Texas Co.	67 1/2	67 1/2	68 1/2	+1 1/2
Tide Wat. A. Co.	32 1/2	32 1/2	33 1/2	+1 1/2
Tri. Cont. Corp.	10 1/2	10 1/2	11 1/2	+1 1/2
United Corp.	34 1/2	34 1/2	35 1/2	+1 1/2
U. S. Steel	87 1/2	87 1/2	88 1/2	+1 1/2
Warner Bro. Pict.	11 1/2	11 1/2	12 1/2	+1 1/2
Wet. time Elec.	33 1/2	33 1/2	34 1/2	+1 1/2



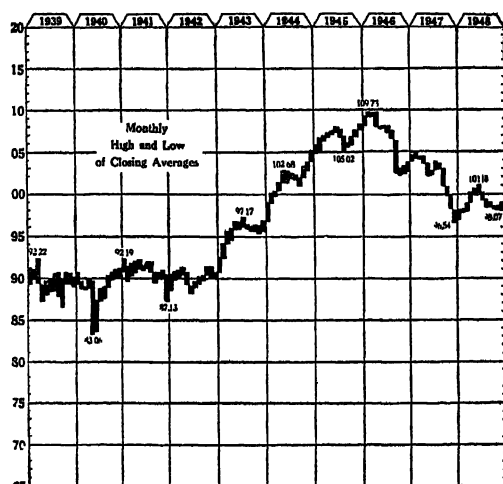
DOW-JONES INDUSTRIAL AVERAGE

Among the consumer goods industries, radio, rayon and brewery stocks made outstanding gains. Groups of stocks that showed declines included drug and cosmetic, apparel, leather and shoe, non-alcoholic beverage, moving picture, air transport, fertilizer, and agricultural machinery shares. This

The Bond Market. Largely because of support of basic bond prices by the Federal Reserve System, the bond market was relatively stable in 1948. At the beginning of the year the drop in prices that had started in the autumn of 1947 came to an end, and for several months bond values made a moderate recovery, declining again in the second half of the year. Yields on medium-term taxable U.S. Government bonds fell from 2.09 percent in January to 1.89 percent in June, while yields on high-grade corporate bonds dropped from 2.85 percent to 2.73 percent. The strong demand for high-grade bonds and the firmness in prices appeared to reflect confidence in the prospect for the maintenance of stable long-term interest rates.

The decline in bond prices and the higher yields that started around the middle of the year were the result of a number of factors, including the special offerings of Savings bonds to institutional investors and especially the anti-inflationary measures taken by the Treasury and the Federal Reserve System, such as the increases in reserve requirements of member banks and the raising of the rate on new short-term Treasury issues. These factors, as well as renewed fear that support of government bonds by the Federal Reserve at the pegged levels might be removed, led again to large-scale selling of long-term Treasury bonds. As a result, prices declined until they reached support levels for most issues in August, where they remained through October.

Prices of high and medium-grade corporate bonds and of municipal obligations moved along somewhat similar lines, recovering through June, declining in the following two months and then leveling off. The fluctuations in these issues, however, were wider than those of long-term government bonds, since they did not receive official support and their supply was increasing.



DOW-JONES 40-BOND AVERAGE

Municipal bonds, in turn, declined somewhat more rapidly than corporate issues owing to the stronger demand for the higher-yielding corporate bonds on the part of insurance companies and other institutional investors, who purchased them with funds received from the sale of their government bonds to the Federal Reserve System. At the end of October yields on corporate high-grade and municipal bonds were again at about the same levels they had reached at the beginning of the year. The rally in the closing months, however, brought prices at the end of the year to a higher level than in December 1947.

Following the elections in November, Treasury bond prices again rose above the Federal Reserve support levels, where they had sold during the preceding few months. This rally was due primarily to the sudden termination of the wave of selling of government bonds, which in the period from July through November 10 had added \$4,700 million of long-term bonds to the portfolios of the Federal Reserve Banks. This change in sentiment was attributed to the general belief that the election results assured a continuance of the policy of the monetary authorities of guaranteeing prices of at least par to holders of marketable government

bonds. The decline in offerings and a broadening of demand resulted in higher prices.

The range of government, municipal and corporate bond yields in 1948 is shown in Table 2.

TABLE 2—BOND YIELDS IN 1948
[Percent per annum]

Month	United States Government (taxable)		Municipal (high grade)	Corporate (high grade)
	7-9 years	15 years and over		
January.....	2.09	2.45	2.45	2.85
February.....	2.08	2.45	2.55	2.84
March.....	2.03	2.44	2.52	2.81
April.....	1.99	2.44	2.38	2.77
May.....	1.89	2.42	2.31	2.74
June.....	1.89	2.41	2.26	2.73
July.....	1.96	2.44	2.33	2.80
August.....	2.05	2.45	2.45	2.86
September.....	2.04	2.45	2.46	2.85
October.....	2.05	2.45	2.45	2.85
November.....	2.00	2.44	2.42	2.86
December.....	1.94	2.44	2.24	2.81

In 1948, the increase in the differential between the yields on corporate and government bonds that had been noted in the previous year, due to the wider movements in corporate bond yields, was brought to a halt. The decline in yields during the first half of the year was accompanied by a shrinkage in the spread, which again increased, however, as the weakness appeared in the bond market beginning in June. Nevertheless, at the end of the year the differential was less than that of a year before, reflecting in part the heavy demand for corporate bonds on the part of institutional investors. Because of this demand, high-grade corporate bonds were selling at prices giving yields of under 3 percent.

Yields on corporation bonds of various ratings are shown in Table 3.

TABLE 3—CORPORATE BOND YIELDS

Rating	Dec. 31,		Rating	Dec. 31,	
	1948	1947		1948	1947
AAA.....	2.75	2.88	A.....	3.13	3.22
AA.....	2.84	2.97	BAA.....	3.50	3.50

Bond dealings on the New York Stock Exchange in 1948, totaling \$1,014 million, not only continued the decline of the past several years but were the smallest since 1915. This situation was due to the dominant position of the large institutional investors in the field of high-grade investments and to the prevailing practice of many large corporations of selling their obligations to insurance companies directly.

New Issues. Flotations of new securities in 1948, amounting to approximately \$10,000 million, reached about the same level as in the previous year. Issues sold for the purpose of obtaining new funds for plant and equipment and working capital, making up seven-eighths of the total, were considerably in excess of the offerings for 1947 but the volume of refunding issues was only one half the 1947 sales. Corporation flotations, constituting more than three-fifths of all new capital issues, registered a substantial gain, corporation bond issues exceeding all former records.

Private sales by corporations to insurance companies and other financial institutions continued to bulk large in the total, representing about two-fifths of all corporate financing for the year. New state and municipal flotations registered a gain of more than a quarter over the 1947 total, which in turn was far above any previous record. As in preceding years, bonds accounted for the major part of the new capital, stock offerings making up less than a tenth of all security issues.

Among the various industrial groups, public utilities made up the most important class of new securities offered in the market, constituting well over two-fifths of all new capital flotations. Within this group, electric power and telephone corporations were the principal seekers of new money. In-

by the strong competition for available investment funds provided by corporation bond issues.

New financing for 1948 is shown in Table 4.

The Nation's Savings. Consumer income and expenditures both went up in 1948, but the rise in the income exceeded the increase in outlays. As a

TABLE 4—SUMMARY OF NEW FINANCING IN 1948
[In millions of dollars]

Month	Total (New & Refunding)	Total New Capital	Total Domestic	New Capital				Foreign	Total Refund- ing
				State & Municipal	Federal Agencies	Corporate Bonds & Notes	Corporate Stocks		
Jan.....	541	495	495	114	16	323	41	..	40
Feb.....	837	782	781	217	30	348	178	1	56
Mar.....	1,374	1,222	1,221	630	31	531	29	2	152
Apr.....	936	769	768	156	50	432	131	2	166
May.....	652	591	591	182	35	293	81	..	61
June.....	954	888	888	283	21	436	149	..	66
July.....	763	679	679	118	67	484	10	..	85
Aug.....	706	531	528	237	35	194	61	3	175
Sept.....	660	571	569	118	..	364	87	2	89
Oct.....	733	652	651	273	..	328	50	1 ^b	81
Nov.....	666	593	583	150	..	409	24	10	73
Dec.....	831	753	753	126	..	564	61	..	78
Total, 1948..	9,653	8,526	8,507	2,604	294	4,706	905	21	1,127
Total, 1947..	9,611 ^a	7,451 ^a	7,139	2,228	203	3,493	1,215	68	2,160

^a Includes \$244 million of issues of International Bank for Reconstruction and Development which are not shown separately.
^b Excludes the Shell Petroleum Co. issue of \$250 million, placed privately.

dustrial and mining enterprises accounted for over a third of the total, the leading industrial issuers of securities being petroleum, machinery, transportation equipment, iron and steel, and tobacco enterprises. Railroad securities recorded the largest gain for any major group, reflecting the greatly increased expansion program of the railways.

result, personal savings increased more rapidly than in 1947, amounting to 7 percent of disposable personal income as against 5 percent the year before. Liquid savings in the form of currency and bank deposits, insurance policies and securities went up more than \$3,000 in the first nine months of the year, a slower rate of gain than in the preceding

TABLE 5—TRENDS IN CONSUMERS' SAVINGS

Year	Disposable Personal Income	Less: Consumer Expenditures -- (Millions of dollars)	Equals: Personal Savings	Percent of Disposable Income Saved
1939	70,200	67,500	2,700	3.8
1941	92,000	82,300	9,800	10.0
1944	145,000	110,400	35,200	24.2
1946	159,200	147,400	11,800	7.4
1947	173,600	164,800	8,800	5.1
1948 (first three quarters at annual rate).....	188,700	175,700	13,000	6.9

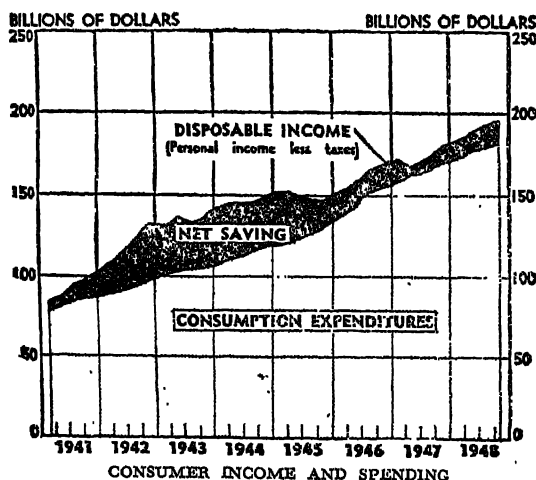
The volume of new issues floated by State and local governments, totaling \$2,600 million, was 17 percent above the previous record total reached in 1947. At times some difficulty was experienced in selling municipal securities to the public and in general higher interest rates had to be offered in order to attract investors. The situation was due to

year. A larger proportion of savings, however, was invested in housing, farms, durable consumer goods and small businesses.

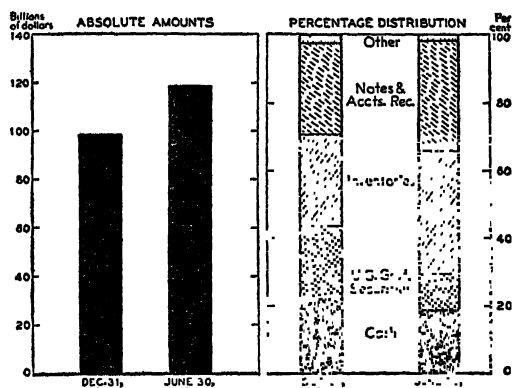
It was evident that many people were drawing on their accumulated savings or running into debt to make current purchases. This was indicated by the large increase in consumer instalment sales and loans and by the findings of the Federal Reserve Board's consumer finance survey, which showed that over a quarter of all families spent more than they earned in 1947, while one-twelfth of all spending units broke even. Furthermore, for the first time since the end of the war there was a decline in the proportion of families owning either bank accounts or government bonds.

Consumers' expenditures and savings for the past several years are shown in Table 5.

Corporate Working Capital. Financing of investments by corporations in plant and equipment, inventories and customer credit in 1948 required \$26,000 million, about 7 percent less than in 1947. The amount spent on new plant and equipment increased, however. Preliminary data for the year indicated a considerable slowing up in the growth of working capital needs, due to the reduced rate of inventory accumulation and of increase in accounts receivable. On June 30, 1948, corporate liquid assets (cash and U.S. Government securities) totaled \$35,000 million, a decline of 1,000 million dollars from the end of 1947. They accounted for 30 percent of total current assets of corporations. Current assets as a whole were more than



the large and growing supply of new State and local government bond issues floated to finance public works and bonus payments to veterans and



Source: Securities and Exchange Commission

TOTAL CURRENT ASSETS OF U.S. CORPORATIONS

(All U.S. corporations except insurance banks and insurance companies)

twice current liabilities, indicating a strong working capital position. In the first half of the year they rose by almost \$2,000 million.

Current assets and liabilities of corporations are shown in Table 6.

TABLE 6—CURRENT ASSETS AND LIABILITIES •
(Millions of dollars)

	Dec. 31, 1945	June 30, 1946
Current Assets		
Cash on hand and in banks.....	22,600	22,400
United States Government securities.....	13,400	12,600
Notes and accounts receivable.....	38,200	38,700
Inventories.....	40,600	43,000
Other current assets.....	1,800	1,800
Total Current Assets.....	116,600	118,400
Current Liabilities		
Notes and accounts payable.....	35,300	33,800
Federal income tax liabilities.....	10,000	10,200
Other current liabilities.....	10,800	10,500
Total Current Liabilities.....	56,000	54,500
Net Working Capital.....	60,600	63,900

* All United States corporations excluding banks and insurance companies.

—SAMUEL S. SHIPMAN

FINE ARTS, Commission of. The official advisory body of the United States Government upon matters of art concerning projects of the Federal Government in the District of Columbia, composed of seven members appointed by the President. Expenditures are administered by the Department of the Interior. Chairman: Gilmore D. Clarke.

FINLAND. A republic of Northern Europe. Capital, Helsinki (Helsingfors).

Area and Population. Finland's original area of 149,588 sq. mi., including about 11 percent of inland water area, was reduced to 134,253 sq. mi. by the Soviet-Finnish peace treaty of Mar. 12, 1940, and was further reduced to 130,160 sq. mi. under the terms of the peace treaty of Feb. 10, 1947, which ended the country's second war with Soviet Russia. The population on Jan. 1, 1947, was 4,053,700. About 90 percent of the inhabitants speak Finnish and 9.6 percent speak Swedish. Estimated populations of the chief cities on Jan. 1, 1945, were: Helsinki (Helsingfors), 331,192; Tampere (Tammerfors), 85,168; Turku (Åbo), 78,492; Viipuri (Viborg)—ceded to the Soviet Union—60,725; Vaasa (Vasa), 35,973. Swedish place names are given above in parentheses.

Education and Religion. There were, in 1945, 5,458 elementary schools with 419,064 pupils, and (in

1946) 286 secondary schools with 82,549 pupils. Finland has three universities, one at Helsinki and two at Turku (of which one is Swedish). Helsinki University had more than 10,000 enrolled in 1947.

The Evangelical Lutheran religion is predominant. In 1944, 3,790,491 persons belonged to the Established Church. About 70,000 were Orthodox (Greek Catholics) and 11,000 belonged to various Free Churches.

Production. Agriculture is the chief occupation of the people of Finland, although the cultivated area covers only 6.6 percent of the land. However, the country's principal source of wealth lies in its forests, of which there are about 53,771,000 acres, with productivity on 42,206,000 acres. The wood-working industries account for more than 80 percent of the gross value of exports.

Foreign Trade. In 1947 imports were valued at 46,971 million Finnish marks and exports at 45,228 million marks. Chief export staples are timber, woodpulp, newsprint and paper.

Finance. In the 1948 budget, revenue (65,831 million marks) and expenditure (65,814 million) were approximately balanced. The public debt in March, 1947, reached 110,420 million marks. Exchange rate (Official Selling Rate): U.S.\$ = 136.00 marks, 1946–October, 1948.

Government. The Constitution of July 17, 1919, vested executive powers in a President elected for six years by 300 electors, chosen in the same manner as members of the Diet. Legislative power rests with the unicameral Diet and the President. The 200 members of the Diet are elected by direct vote of all citizens, male and female, 24 years or more of age. The standing of the parties in the Diet elected on July 1, 1948 (see *Events*, below) was: Agrarians, 56; Social-Democrats, 55; Popular Democrats, 38; Conservatives (Coalition party), 32; Swedes, 14; Liberals (Progressives), 5. President of the republic: Juho K. Paasikivi, who succeeded President Mannerheim on Mar. 9, 1946. Premier, since July 29, 1948: Karl August Fagerholm, Social-Democrat.

Events, 1948. Almost miraculously, Finnish democracy survived in a year that saw the other democratic stalwart of the Soviet orbit, Czechoslovakia, succumb to totalitarian pressures. Time and again, as the year went by, it looked as though Finland would have to go the way of Czechoslovakia, but there was always a last-minute reprieve. Just why the former country was spared, while the latter was ruthlessly sacrificed on the altar of the Cold War, nobody could tell. What made the riddle appear even more inexplicable was the fact that Finland, only a few years back, had been a belligerent enemy of the Soviet Union, while Czechoslovakia had been a friend and ally. Perhaps the best explanation of the paradox was that the Kremlin judged Finland safe enough behind the screen of Scandinavian neutrality to allow the little country some latitude in internal affairs, while Czechoslovakia was deemed too exposed—being a neighbor of the American zone in Germany—for similar experiments in democracy.

The Tide Turns. Even in the last months of the preceding year there were indications that the political tide had begun to turn against communism. On Dec. 4–5, 1947, local elections were held in cities, towns and rural communities. The returns showed a definite setback for the Communists throughout the country, some Social-Democratic gains in urban areas (compensated by some losses in the country) and generally a swing to the right and center parties.

This outcome did not strengthen the position of the Communist-led coalition government, which had already been shaken by a wave of unauthorized strikes (in November, 1947) and by rising criticism in the Finnish press. Early in January, the Premier's brother, Eino Pekkala, resigned as Minister of Justice. A resignation of the entire Cabinet was narrowly averted, as the view prevailed that the Government, in spite of all difficulties, should remain in office until after the general election scheduled for July.

Treaty With Russia. In February, a major political and diplomatic crisis began to shape up concurrently with the alarming events in Czechoslovakia. For some time rumors had been current that Moscow desired to strengthen its grip on Finland by means of a military alliance, which under the circumstances would be of necessity a very one-sided affair. Reportedly the idea had been put up to Premier Mauno Pekkala during a visit to Moscow in November, 1947, but had not been followed up because of a cool reception at home.

The Soviet approach, when it came, was overwhelmingly direct and compelling, though in an ostensibly friendly manner. It took the form of a handwritten letter from Stalin to President Paasikivi, dated February 22, urging the conclusion of a Soviet-Finnish pact of friendship, cooperation and mutual assistance, similar to those recently signed by the U.S.S.R. with Hungary and Rumania. Like the latter, the proposed pact was to be aimed against "possible German aggression" and was to "establish conditions for a radical improvement in the relations between our countries." In making the proposal Stalin left it up to the Finns to decide whether negotiations should be carried on in Moscow or Helsinki.

Due to external circumstances, rather than to its tenor and implications per se, the Stalin letter exploded in Finland like a bombshell and sent strong reverberations around the world. There was no mistaking the significance of the timing. Written at the height of the Czechoslovak crisis, the letter was made public on February 26, the day after the triumphant completion of the Communist coup in Prague.

Immediately after receiving the note, Paasikivi consulted with his top diplomatic and military advisors and with the political party leaders in the Diet. The Communists naturally favored acceptance of Stalin's proposals. All other parties in the parliament were opposed, in varying degrees of intensity, to a military alliance, though none objected to a friendship pact. The Cabinet was similarly split along party lines, but the feeling prevailed that Finland had no choice but to accept and could only hope to gain some concessions by skillful negotiation.

Accordingly, the Cabinet on March 7 agreed to negotiate and on the 9th Paasikivi, in a personal letter to Stalin, accepted the invitation to a parley in Moscow. The President expressed the hope, though, that Finland would be permitted to "remain outside international conflicts."

The Finnish reluctance, which had been apparent in the parliamentary debate and even in Paasikivi's acceptance letter, was underlined by a mass demonstration in Helsinki on March 7, the only meeting of its kind, i.e. against signing a treaty with Russia, permitted by the police. It was broken up by a Communist mob. Two days later it was reported that Communist flying squads, calling themselves "workers' committees," had invaded all newspaper offices in Helsinki, warning editors against "anti-Soviet propaganda."

On March 20, a Finnish delegation headed by Premier Pekkala and Foreign Minister Carl J. A. Enckell left for Moscow, where negotiations began two days later. On March 31, it was learned that the Finns had rejected a clause in the proposed military pact that would have permitted the Russians to decide when the mutual aid stipulations should become operative, or in other words when to send Soviet troops into Finland. After several weeks of weary negotiations, the Finnish delegation was able to win important concessions on this and related issues.

The treaty, signed on April 6, committed Finland to resisting armed attack across her territory against Russia by Germany and any state allied with her and to accepting Soviet military assistance "in case of necessity." It was stipulated, however, that the terms of this assistance should be agreed on by the two countries and that Finland's armed forces should not be obligated to fight outside Finnish soil. This proviso and the preamble to the treaty, recognizing "Finland's desire to stand aside from conflicts between interests of great powers," guarantees, at least theoretically, Finnish neutrality in the event of war not affecting Finland's territory.

The treaty was concluded for a period of ten years, renewable every five years thereafter unless terminated by either party at a year's notice. In a radio broadcast defending the treaty on April 9, President Paasikivi vouched that there were no secret clauses of any kind. The agreement was ratified by the Diet on April 28, by a vote of 157 to 11, with 32 abstentions.

Ouster of Leino. Although the Finnish Communists had their way, at least partially, in the matter of the treaty with the U.S.S.R., they were losing ground in the fight for political control at home, it soon became apparent. For all their oratory about "following the example of Czechoslovakia" they proved unable likewise to create a revolutionary situation and exploit it. This failure evidently can be explained only by a lack of direct and overt support from Soviet Russia. For, in the present state of affairs, there can be little doubt that the Kremlin could "communistize" Finland any time it wished to.

According to some reports the so-called "barriade faction" of the Finnish Communist party did make an attempt, in late April, to wrest control from the Government. In a letter to the *New York Times* (June 27, 1948), Hjalmar Procope, former Finnish Minister to Washington, gave an interesting account of this abortive coup. After raising the question why communism in Finland had "slowed up," Mr. Procope wrote: "The answer is that the quick counter action of the Finnish Army on Apr. 26, 1948, made it impossible to overthrow the present coalition government of Finland. That is now a certain and historic fact. On that historic day all police and army leave permissions were cancelled. Ammunition depots were confiscated and transported to safe places where police officers of Communist stripe could not get hold of them. An armored battalion was stationed near Kerava, about twenty miles from Helsinki. Two gunboats arrived at Helsinki. One light brigade was stationed near Ilvyinkää. And the castle of President Paasikivi was put under special guard to prevent any surprise move."

Communist leader Leino (Minister of Interior Yrjö Leino) asked Gen. Silvo (Gen. Aarne Silvo, commander-in-chief of Finland's armed forces) to withdraw the emergency alarm and to recall all troops. "This is action against Communists," he de-

claimed. 'A Fascist coup will result from it' . . . Prime Minister Pekkala refused to change the orders. He summoned an emergency meeting of Parliament, and what happened on that day marked, I believe, the beginning of the end of Leino's career as a Soviet agent operating inside the Finnish Government. . . .

It should be added, however, that very little of the events referred to in Mr. Procope's story appeared at the time in the reports of foreign correspondents stationed in Finland. One should also bear in mind that Mr. Procope was affiliated with the pro-Nazi wartime regime in Finland and that his credibility, therefore, is not beyond question.

In any event it is certain that shortly after the events referred to above Finnish communism suffered a severe setback. On May 19, the Diet, by a vote of 80 to 60, passed a vote of censure against Minister Leino on the grounds that he had extradited twenty people to the U.S.S.R. in 1945 without Cabinet authorization. Under the terms of the Finnish Constitution, Leino, having received a vote of no-confidence was obliged to resign, but he failed to do so. He even ignored an order from President Paasikivi to resign. Thereupon he was removed from his office by a vote of the Cabinet, on May 22.

Leino's ouster led to mass demonstrations spearheaded by Communist "action committees" and left-wing trade unions. On May 24, a general strike was proclaimed, lasting five days. There were incidents, but none of them serious enough to cause mass violence. Nevertheless the situation might have degenerated into a Communist uprising, but for the appointment of Eino Kilpi, a left-wing socialist, as successor to Leino. A few days before his appointment, Mr. Kilpi had resigned from the Social-Democratic party, joining the (Communist-controlled) Popular Democratic party.

In a further move to appease the Communists, Hertta Kuusinen, wife of ex-Minister Leino and a top leader of the Finnish Communist party in her own right, was given a minor post in the reconstructed Cabinet. The Communists accepted the compromise, the general strike was called off, and the crisis blew over.

A Free Election, and a Change of Government. "We will have elections in the legal fashion and there will be no question of postponing them. . . . The elections will be totally free and the will of the people will be the deciding factor," President Paasikivi told American reporters on March 22. He repeated this promise in his broadcast of April 9 defending the treaty with the Soviet Union.

His promise was kept to the letter. The general election was held on July 1-2, as scheduled, in an atmosphere of absolute order and freedom of vote. The Communists, as had been generally expected, were the principal losers, but the magnitude of their defeat came as a shock even to their opponents, on account of the inevitable displeasure of Moscow.

Soviet Russia's immediate interest in the ballot was apparent in a political maneuver which failed, however, to produce the expected result. A few weeks before the election, the Soviet Minister in Helsinki, Gen. G. M. Savonenkov, informed Premier Pekkala that the U.S.S.R. had canceled half the remaining reparations due from Finland, a sum of about \$75 million. Former Minister Leino and two other Communist members of the Finnish Cabinet were given chief credit for obtaining the abatement.

While the Finns could not but rejoice over this

windfall, they did not see in it any reason to vote for the Communists. On the contrary, they dropped the "People's Democratic Union" (Communists and allied Socialists) to third place in the Diet.

The chief victor at the July 1-2 election was the Agrarian party, which gained 7 seats, for a total of 56; the Social-Democrats ran second, with 55 seats (against 50 before); then came the Popular Democrats, losing 11 seats and retaining 38; the Conservatives ranked fourth, with 32 seats, a gain of 4; the Swedish party came out with 14, losing one; and the Liberals were left with only 5 of the 9 seats they had in the 1945 Diet.

In spite of their crushing defeat at the polls, the Communists immediately after the election laid claim to the Interior Ministry in a new coalition government. On July 6, Mrs. Hertta Kuusinen-Leino informed a news conference that in her view any other arrangement would be incompatible with the spirit of the peace treaty. The other parties firmly rejected this bid.

The new Parliament met on July 21 and the following day Premier Pekkala resigned with his entire Cabinet. When the largest party, the Agrarians, turned down an offer to form the new government, President Paasikivi asked the Social-Democratic leader, Karl August Fagerholm, to undertake this task. After a few days of futile negotiations with the other parties, Fagerholm on July 29 formed a minority government staffed exclusively with members of his own party, except for two non-party men, one of whom was Foreign Minister Enckell, who retained his post. The Agrarian party, while refusing to join the Cabinet, promised conditional support.

Faced with overt and vocal opposition from the Communists, Fagerholm and his Cabinet looked anxiously to Moscow for possible signs of forceful intervention. Surprisingly, the Kremlin took no action, although the appointment of an all-Social-Democratic Cabinet evidently was not to its taste. Even when the new Government proceeded to reorganize the police force, which Mr. Leino had fashioned into an instrument of Communist power politics, the opposition did not go beyond verbal protests.

A wave of Communist-inspired strikes in October failed to bring the widely feared showdown. Toward the end of the year, the Fagerholm Cabinet appeared to have matters well in hand. At any rate it had foiled the forecasts of a very short life freely made at its birth.

In the economic field, Finland made excellent progress during the year. There was no unemployment, as industrial production remained in high gear. The food situation was better than in most European countries. Meat, in particular, was plentiful and was taken off the rationing list. Prices were generally high. Although forced to remain outside the Marshall Plan, Finland did its best to expand its trade relations with the West. In response, United States export controls on industrial equipment were relaxed on May 26 in favor of Finland.

—JOACHIM JOESTEN

FIRE PROTECTION. The upward trend in fire losses so apparent during the past decade continued during 1948. Preliminary estimate of property damage by fire announced by the National Board of Fire Underwriters was \$711,114,000. This figure exceeds comparable estimates of any previous year but it should be noted that dollar value of property destruction is not necessarily the best index. In a period of inflation such as currently prevails a larger dollar loss may be produced by less actual physi-

cal destruction than in some previous years. Nevertheless there is nothing in the current fire loss situation to engender complacency. For purposes of comparison, preliminary estimates of the fire losses for the past ten years follow:

1939.....	\$275,102,119	1944.....	\$423,458,000
1940.....	285,878,697	1945.....	455,329,000
1941.....	303,895,000	1946.....	561,487,000
1942.....	314,295,000	1947.....	692,635,000
1943.....	373,000,000	1948.....	711,114,000

According to the records of the National Fire Protection Association there were 268 fires in the United States and Canada with losses of \$250,000 or more, including 33 which resulted in losses of \$1 million or more. Of these 24 occurred in Canada, four in Alaska, one in Hawaii, and one United States vessel was destroyed by fire on the high seas. Omitted from this total are several large fires in other parts of the world.

The largest monetary loss resulted from the destruction of the U.S. Army Transport "Joseph V. Connolly" at sea on January 12. The vessel was eastbound, with a cargo of plywood-encased coffins for the repatriation of war dead, when fire broke out in the engine room. The fire could not be controlled and the vessel was so severely damaged that she sank while in tow. The loss is estimated at \$1.5 million for the vessel and \$1.8 million for the cargo.

Among fires occurring on land the largest loss resulted from a starch dust explosion at the Chicago candy factory of E. J. Brach & Sons on September 7. Seventeen persons were killed and property damage was estimated at \$5 million. The largest loss of life in accidents where fire is believed responsible occurred when a DC-6 passenger transport of United Airlines crashed at Mt. Carmel, Pa. on July 17. Forty-three persons died.

The impetus to fire prevention created by President Truman's Conference on Fire Prevention which was held in Washington in 1947 continued to a considerable degree throughout 1948. The recommendations coming out of the President's Conference were transferred by the Conference to the States and cities. During 1948 State conferences sponsored by the governors were held in Alabama, Colorado, Connecticut, Florida, Georgia, Illinois, Iowa, Maine, Maryland, Minnesota, Ohio, Rhode Island, Tennessee, and Virginia. Also in the States of California, Michigan, Nevada, New Mexico, Oklahoma, and Utah State fire advisory boards were created by the governors.

The question of planning for civil defense in the event of another world war and a possible attack upon our own country is of significance to the fire protection fraternity because of the devastating role that fire played as a weapon in World War II. The subject of civil defense planning is important to State and municipal officials, but the American public at large appears to be indifferent and uninterested. The report, entitled "Civil Defense for National Security," prepared by the U.S. Office of Civil Defense Planning for Secretary of Defense Forrestal, appeared late in 1948 and the next step, so far as federal interest in civil defense planning is concerned, appears to be up to the 81st Congress. The report recommends a fire service division in the Federal Office of Civil Defense, a State fire services division under a State civil defense director in each State, and a local fire service division for civil defense in each locality under the direction of the fire chief. In general, the responsibility is transferred to the individual States and cities and away from the military.

The modern trend of reducing the actual working hours of all classes of labor is being felt in the fire service more strongly than ever before. In hundreds of communities during 1948 the workweek of firemen was reduced, in many places to as low as 48 hours per week. The acute shortages of fire apparatus experienced during and after the war have eased to some extent. Municipal fire apparatus has been more readily obtainable, but like everything else has become more expensive.

The use of 2-way short-wave radio is becoming increasingly popular in the fire service as its value becomes more firmly established. Of 97 United States cities having a reported population between 25,000 and 1 million which reported expenditures during 1948, 25 reported installation or expansion of radio communication facilities.

The progressive trends in fire department training have continued throughout 1948. An estimated 35,000 firemen participated in courses affiliated with firemen's training programs in some 35 States which reported their training activities on a State-wide basis. Of course, many additional thousands of firemen, both paid and volunteer, participated in training work in individual departments by instructors trained through the State programs. Today in most States the training programs, whether given by an itinerant instructor, by a local instructor trained at a State-sponsored training course, or given at a central fire training school, consist of measured systematic instruction.

A rather unusual but nevertheless well-deserved tribute to the thousands of volunteer firemen in the United States was provided in 1948 by the issuance of a new United States postage stamp commemorating the 300th anniversary of organized volunteer fire service.

Throughout 1948 the interest developed in 1947 in adequate measures for hotel fire safety was maintained. A number of State laws and a considerable number of local ordinances regulating hotel safety were enacted during the year and some cities such as Hartford, Conn., secured proper interior fire protection in all their hotels. A new edition of the NFPA Building Exits Code, a code widely used in States and cities, appeared in 1948. The State of Georgia adopted the NFPA Building Code as law. The State of Virginia is undertaking a revision of its laws governing fire protection in buildings and is taking steps to provide a number of changes in various State standards for fire protection. Similar action is also under way or completed in Ohio and New Hampshire.

In its comparatively new Division of Safety, New York State has created a Bureau of Fire Mobilization and Control. Fire officials in port cities were encouraged by a case in Los Angeles Harbor which provided an important precedent for the enforcement of local fire regulations governing the safe handling of hazardous cargoes. In this case, failure of the S.S. *River Raisin* to follow local harbor regulations resulted in a large oil spill and a serious fire hazard. The ship's captain and second mate were fined \$250 each in municipal court and the cost of clean-up estimated at \$9,000 was charged against the ship.

There is a slowly growing recognition that careless smokers are responsible for altogether too many fires, and local ordinances designed to prohibit smoking or to penalize the careless smoker in theaters, department stores, hotel bedrooms, etc., were adopted in numerous cities during 1948. The largest city to take such action was Chicago, late in the year.

New hazards that caused considerable interest

during the year were the introduction of self-service and coin-operated gasoline stations, and the widespread development of television. Various types of self-service gasoline stations have been tried out, some with obviously more fire hazard than others, and action has been taken by some States and cities to prohibit self-service gasoline stations. The growth of this movement is yet to be determined and the fire hazard aspects have not yet been clearly defined. Further experience and investigation during the coming year will bring a clearer answer to this problem.

In the case of television, the development is still too new and experience too meagre to make any final observations as to its importance as a fire hazard. A good many city building-officials have been concerned about the erection of television antennae, with a consequent increase in possible accident and lightning hazard.

There is a growing interest in fire prevention education not only of workers, housewives, and other adults, but of children. The demand for educational material on common fire hazards is growing markedly. The interest of the U.S. Office of Education and of the National Education Association in fire prevention education in the schools is most welcome. The junior fire brigade development as exemplified in Los Angeles and Dallas is attracting great interest and will undoubtedly spread to many other cities.

The perennial popularity of Fire Prevention Week as a device to stimulate public interest in fire prevention increases year after year. In the Fire Prevention Week competition among cities sponsored by the NFPA, entries were received from 2,928 cities, the largest number ever enrolled. The top ten cities in the United States in the order of their final grade were Oak Ridge, Tenn.; Memphis, Tenn.; Chicago, Ill.; Jersey City, N.J.; Louisville, Ky.; Fort Collins, Colo.; Hartford, Conn.; Los Alamos, N.M.; Anderson, Ind.; and Fort Wayne, Ind. Ottawa, Ont., was the winner in Canada.

Winners in the National Fire Waste Council contest for year-round excellence in fire prevention activities for 1947 as announced early in 1948 were Chicago, Atlanta, Tulsa, Alameda, Calif., Parkersburg, W.Va., and Fort Collins, Colo.—the latter was the grand winner. —CHARLES S. MORGAN

FISCAL SERVICE. Under direction of a permanent Fiscal Assistant Secretary (Edward F. Bartelt), the Fiscal Service conducts the financing operations of the United States Treasury. It is composed of the Office of the Fiscal Assistant Secretary of the Treasury, Office of the Treasurer of the United States (William A. Julian, Treasurer), Bureau of the Public Debt (Edwin L. Kilby, Commissioner), and the Bureau of Accounts (Robert W. Maxwell, Commissioner). It exercises supervision over the depository system of the United States; maintains the daily cash position of the Treasury; keeps the central accounts of the Government relating to receipts, appropriations, and expenditures of all departments and agencies; services and manages the public debt; administers the Government's investment accounts; maintains a nationwide disbursing system (Paul D. Banning, Chief Disbursing Officer) covering all activities of the executive branch of the Government except military and postal service activities; issues licenses to, and fixes underwriting limitations of, surety companies authorized to do business with the United States; liquidates fiscal affairs of war agencies; and is generally responsible for the receipt, safekeeping, and disbursement of the public funds.

FISH AND WILDLIFE SERVICE. This Federal agency is charged with the conservation of the fishery and wildlife resources of the United States and its territories. The activities of the Service during the fiscal year ended June 30, 1948, reflect the varied and challenging nature of the task of maintaining this segment of our national wealth.

The most intensive war ever waged against rats was conducted on a nationwide basis in 1948 in cities and rural areas to save grain and food needed for the European Relief Program. Rats, as the Service pointed out, cause food and grain losses of \$2,000 million annually, spread eight deadly diseases, and outnumber the country's human inhabitants. To enlist the public in the campaign, the Service forwarded more than 4 million pieces of literature in bulk shipments to about 650 cities to tell citizens how to use traps and poisons correctly and how to rat-proof their buildings. Of the 631 cities which participated in the National Urban Rat Control Program, 62 percent have enacted rat control ordinances or have rat-proofed city property and improved garbage collection and sewage disposal.

To halt depredations on valuable livestock, poultry, and game, 99,452 predatory animals were destroyed by Federal-supervised predator control work during the fiscal year 1948. The total recorded take consisted of 90,270 coyotes, 7,223 lynxes, bobcats, and ocelots, 744 stock-killing bears, and 148 mountain lions. The highest kill of 28,605 predatory animals was made in Texas. Poisoning, shooting, and trapping were the chief methods of control.

During the calendar year ended Dec. 31, 1947, the 97 fish hatcheries operated by the Service produced 2,659,261,576 eggs, fry, and fingerling fishes for stocking purposes. Fish hatcheries on the Pacific coast are concerned chiefly with the maintenance of salmon runs in coastal waters. Hatcheries producing warm-water species such as bass and sunfish are supplying large quantities of fish for stocking farm ponds, particularly in the South Central states.

The propagation of shad was resumed at the Fort Belvoir, Va., hatchery. The propagation of fresh-water mussels was started at the Crab Orchard National Wildlife Refuge, Cartersville, Ill., as part of an artificial propagation program begun in June, 1948, in rivers and streams of the Mississippi River basin.

Although not commissioned until March, 1948, the fishery research vessel *Albatross III* has greatly facilitated work on the North Atlantic fishing banks. Most important have been the studies in the use of a large-mesh cod end in otter-trawl fishing for haddock, cod, and other fishes.

Scientists investigating problems of fur-seal management on the Pribilof Islands in Bering Sea tagged nearly 20,000 seal pups and made two extensive cruises in north Pacific waters in the motorship *Black Douglas*, gathering information on the migration routes and food habits of the seals.

Service biologists studied the Pacific tunas to obtain preliminary data on the life history, abundance, and distribution of these valuable food fishes. Service personnel were detailed as consultants and observers aboard several vessels engaged in freezing fish in Pacific waters. General statistical surveys of the fisheries covered each of the coastal states except those in the South Atlantic and Gulf areas.

The Mexican Fishery Mission continued during the fiscal year 1948 to assist both countries to uncover facts pertaining to the little-known fishery

resources of Mexico and to aid that country in training a competent staff of fishery investigators. An aquatic biologist of the Service was assigned early in 1948 to a year-long investigation of the marine fisheries of Venezuela, at the request of that Government. A specialist in the biology of shellfish was assigned in January, 1948, to an investigation of the pearl-oyster resources of Panama, upon the request of the Panamanian Government. At the invitation of the Cuban Government a party of three ornithologists was sent in February to make a two-month survey of the migratory birds that winter in Cuba.

The January, 1948, annual inventory of waterfowl wintering in Canada, Alaska, coastal Latin America, and the United States showed little change from the total populations observed in 1947. Regionally, the picture was uneven. Decreases were reported in the Central flyway, Mexico, and most of Canada except the Maritime Provinces; these were approximately balanced by increases in the Atlantic and Mississippi flyways and the Pacific Coast States of the Pacific flyway.

Studies of the effects of DDT on wildlife, begun in 1945, were continued in the fiscal year 1948. Aerial applications of DDT were made specifically to observe the effects on wildlife. According to present knowledge of the problem, it is unsafe to apply by airplane more than 2 lb. of DDT per acre if harm to birds, mammals, and amphibians is to be avoided.

Investigations on wildlife in relation to agriculture and soil conservation practices continued in Maryland and in the southeast. Two experimental farms are being developed on the Patuxent Research Refuge in Maryland. One area has a complete modern soil conservation and agricultural program while the other is managed by out-dated but commonly used farming practices. Living fences of multiflora rose, contour hedges, and legume field borders are examples of developments recently installed and which will be evaluated, as they grow, in terms of their effects on quail, rabbits, songbirds, rodents, and other species.

Research projects at the 10 Cooperative Wildlife Research units active during 1948 totaled around 100 and involved work on waterfowl, small and big game, wildlife environment, and many other phases of wildlife management. More than 100 technical papers, bulletins, and popular articles on the research findings of the units were published during the year.

The Service made field surveys and completed reports on 83 Missouri River Basin projects; 29 sponsored by the Bureau of Reclamation and 4 by the Corps of Engineers. These surveys provide useful data for evaluating the basin-wide effects, good or bad, which these engineering projects will have on fish and game populations and habitat in that basin.

Since the Pittman-Robertson Act became effective in 1938, 2,490 Federal aid wildlife-restoration projects have been conducted under its provisions. Congressional appropriations have varied from a low of \$900,000 for the fiscal year 1945 to a high of \$9,031,272 for the fiscal year 1948. During this 10-year period, \$48,175,429 was collected from the 11 percent excise tax on the sale of sporting arms and ammunition, and the Congress appropriated a total of \$34,707,961 to finance the Federal share of the costs of program work.

An important event of the fiscal year 1948 was the establishment of the Crab Orchard National Wildlife Refuge in southern Illinois. This area, consisting of about 44,000 acres, located in Jack-

son, Union, and Williamson counties, will be an important link in the chain of Mississippi flyway refuges, particularly valuable in the protection of Canada geese.

More than 2,200 individuals participated, under special use permit, in the economic use program on national wildlife refuges, exclusive of the number purchasing surplus big-game animals and those who trapped fur animals on refuges. A total net revenue of \$386,000 for the fiscal year 1948 resulted from all economic uses, including the disposition of big-game animals, fur-animal pelts, and surplus products. By law, 25 percent of this revenue was paid to the counties in which the national wildlife refuges are situated, and the balance was deposited in the Treasury. The number of national wildlife refuges at the end of the fiscal year was 282, totaling 18,107,024 acres.

The eight principal statutes administered by the Service for the protection of wildlife are the Migratory Bird Treaty Act, Lacey Act, Migratory Bird Conservation Act, Migratory Bird Stamp Act, the law protecting wildlife and property on Federal refuges, Black Bass Law, Bald Eagle Act, and the Alaska Game Law. A summary of penalties imposed for violations of these statutes during fiscal year 1948 listed 3,061 convictions for which fines and costs assessed amounted to \$124,602. Jail sentences totaled 734 days. These Federal game laws are enforced by 6 regional supervisors of law enforcement and 64 United States game-management agents.

A total of 2,045 importation permits was issued to authorize the entry of 87,918 birds and 31,194 mammals from foreign ports. Fifty-six birds and two mammals, of species prohibited entry into the United States, were seized at ports of entry, both on the Atlantic and Pacific coasts, and were either destroyed or returned to the foreign ports of origin.

-- ALBERT M. DAY

FLAXSEED. The 1948 flaxseed crop of the United States, as estimated in December, 1948, by the Crop Reporting Board of the U.S. Dept. of Agriculture, reached a record of 52,533,000 bushels, which was nearly a third more than was produced in 1947 (40,536,000 bu.) and almost twice the 10-year average (1937-46) production of 26,756,000 bu. States with the highest yields (in bushels) for 1948 were: Minnesota 19,102,000, North Dakota 14,896,000, South Dakota 7,788,000, California 4,851,000, Iowa 1,425,000, Texas 1,320,000, Montana 1,071,000, Arizona 1,064,000.

The Oregon output of flax fiber in 1948 amounted to 3,400 tons of straw, compared to the 1947 output of 9,200 tons of straw. Production of flaxseed from Oregon flax fiber acreage in 1948 was estimated at 19,400 bu., compared with the 1947 production of 59,000 bu.

FLOOD CONTROL. At the close of the year, announcement was made from Washington that "the nation's planners have blue-printed a \$57,000 million program for developing the vast water resources in our river basins," to be completed about the year 2000. Of this, about \$24,000 million would be spent on hydro-electric power development; \$12,800 million would be spent on flood control; \$8,600 million on irrigation; \$6,200 million on navigation improvements; \$4,000 million on water-shed work aimed at saving of surface soil, improving farm procedures, and reducing floods; \$1,370 million would be spent on pollution control and \$45 million on preservation of fish and wild life and provision of recreation facilities.

Flood control is largely the responsibility of the army engineers. Lt. Gen. R. A. Wheeler, Chief of Army Engineers, estimates that prevention of flood damage and transportation savings would net \$825 million annually. Of the total \$57,000 million proper, he estimates that about \$4,780 million worth has been completed in the last 10 years and that other projects which would cost \$4,590 million have been begun.

In loss of life and property, the summer floods this year in the Columbia River basin are probably the most disastrous in its history. A \$3,000 million program for this general area has been reported upon by the Corps of Engineers. The plan calls for immediate authorization of the following six great projects: (1) Libby project on the Kootenai River in Montana; (2) Albeni Falls project on Idaho's Pend Oreille River; (3) Priest Rapids project in Washington in the Columbia River; (4) Hells Canyon project, Snake River, Oregon, and Idaho; (5) John Day project on the Columbia River in Oregon and Washington; and (6) The Dalles project on the Columbia River in Washington and Oregon.

Many other projects in this area are also recommended in the plan. Power installation in the main control plan would increase from 6 to 11.7 million kw and significant flood regulation and irrigation water would be provided.

In New England and in Iowa steps are being taken to organize for State-wide and interstate flood-control work. Apparently an interstate flood-control compact among Massachusetts, Connecticut, Vermont, and New Hampshire is about to be approved. The construction of ten dams is contemplated under the compact.

Rapid graphical-correlation methods and electronic calculators developed by the U.S. Weather Bureau's new forecasting and flood-warning service have continued to prove successful in predicting floods on the Ohio—in particular the floods of April, 1948,—the seventh largest in the 90 years of record at Cincinnati. Striking agreements between actual and predicted crest heights made sometimes several days in advance have occurred. This service helped greatly to reduce losses by permitting erection of barricades in time, by securing removal of goods in areas about to be flooded in time to escape inundation, and by permitting wisest use of flood regulation reservoirs.

It is believed that the recent severe annual losses from floods in the United States of \$225 million would have been \$25 million greater without the flood-warning service.

Public attention has been called to certain broad problems of soil conservation and flood control and heated discussions have been aroused by the publication of two popularly written books, *Our Plundered Planet* and *The Road to Survival*.

—W. E. HOWLAND

FLORIDA. A south Atlantic State. Area: 58,666 sq. mi. Population: (July 1, 1948) 2,356,000, compared with (1940 census) 1,897,414. Chief cities: Tallahassee (capital), 16,240 inhabitants in 1940; Jacksonville, 173,065. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$167,907,000; total expenditure, \$159,728,000.

Elections. Truman won a plurality over Dewey, Thurmond, and Wallace, and carried the State's 8 electoral votes. Democrat Fuller Warren won the governorship, and the 6 Congressional seats re-

mained Democratic. No Senatorial contest was held. Democrats won the other statewide races including: Secretary of State—R. A. Gray; Attorney General—Richard W. Ervin; Treasurer—J. Edwin Larson; Comptroller—C. M. Gay; Superintendent of Public Instruction—Thomas D. Bailey. The voters authorized legislative pay raises.

Officers, 1948. Governor, Millard F. Caldwell; Lieut. Governor, None; Secretary of State, R. A. Gray; Attorney General, J. Tom Watson; State Treasurer, J. Edwin Larson; Commissioner of Agriculture, Nathan Mayo; Superintendent of Public Instruction, Colin English; State Comptroller, C. M. Gay.

FOLKLORE. During 1948 activities in folklore increased in nature and scope. The center of this activity was the American Folklore Society. This society published in its quarterly, *Journal of American Folklore*, many studies and articles concerned with folklore over the world; and in addition, it published a monograph, *Myths and Tales of the Coeur d'Alene*, by Gladys Reichard. This is a study of the myths and folk tales of the Coeur d'Alene Indians of Idaho. It won the Chicago folklore prize for 1948.

The society held a three-day meeting in Toronto in December for the reading of papers and the discussion of folklore problems. The society has been active in other ways. Its Education Committee (Richard Dorson, Chairman) made a detailed study of the teaching of folklore in the United States and will soon bring in recommendations. Its Research Committee (Richard A. Waterman, Chairman) continued the study of methods and materials for research in folklore. Its Committee on Utilization (Thelma James, Chairman) studied the relation of folklore to other arts and sciences. The society through the gift of Miss Jo Stafford established an annual prize of \$250 for the best collection of folklore or folk song made by a student in an American school or college.

Likewise many regional folklore societies have been active in publication and in conducting meetings. Among the most active were: The California Folklore Society (*Western Folklore*), The Texas Folklore Society (*Publications of the Texas Folklore Society*), The New York Folklore Society (*The New York Folklore Quarterly*), French Folklore Society (*The Magazine of French Folklore*), New Mexico Folklore Society (*New Mexico Folklore Record*), Pennsylvania German Folklore Society (*Publications of the Pennsylvania Folklore Society*), Michigan Folklore Society, Hoosier Folklore Society, Badger State Folklore Society, North Carolina Folklore Society, South Carolina Negro Folklore Guild, The Southern Folklore Society (*Southern Folklore Quarterly*). This last contains the valuable annual bibliography of folklore by R. S. Boggs.

During 1948 a number of important folk festivals were held. The Fourteenth Annual National Folk Festival was conducted at St. Louis, April 7–10, under the direction of Sarah Gertrude Knott. On June 18–19, the Carolina Folk Festival was held at Chapel Hill under the direction of Bascom Lunsford. The Thirteenth Mountain Folk Festival was held at Berea College, Kentucky, April 8–10. This was participated in by groups largely from schools and colleges of the southern mountain States. The Cayuga Soursprings Longhouse Mid-winter Ceremonials took place in Ohsweken, Ont., February 14–20.

Several symposia and conferences in folklore were conducted in 1948. Seminars in American culture, sponsored by the New York Historical As-

sociation, Cooperstown, N.Y., were held July 11-17 under the direction of Louis C. Jones. A conference concerned with Western folklore was held at the University of Denver under the direction of Levetta J. Davidson. The Library of Congress sponsored several lectures on folklore.

The wide current interest in folklore matters is further attested by the continuing large number of books published in this field. These are about equally divided between anthologies of folk tales and songs and critical studies. Knowledge of these books can be had through the review sections of the *Journal of American Folklore*. Several interesting record collections were brought out in 1948. The most important of these were the 21 albums of folk songs, folk music, and folk dances issued by the Folk Music Section of the Library of Congress, under the editorship of the Chief of the Section, Duncan Emrich. To be noted also is the series of folk music albums released by Decca Records under the editorship of Alan Lomax.

During 1948 folklore as a subject for instruction found a wider place on the curricula of the schools and colleges of America. Extensive work in this field was done at the University of Indiana, the University of North Carolina, the University of Pennsylvania, Murray State College, Cornell University, University of Colorado, Wayne University, Occidental College, University of California, and Michigan State College. —MACEDWARD LEACHT

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO). This organization was officially founded at Quebec City, Canada, on Oct. 16, 1945, but it had its root in the Hot Springs Conference, called by President Roosevelt in May, 1943, to discuss food and agricultural problems of the United Nations. Forty-four countries were represented and delegates reached agreement on a number of basic points which became foundation stones of FAO policy. Some of these were:

"The world has never had enough to eat. At least two-thirds of its people are ill-nourished in spite of the fact that two-thirds of the world's people are farmers.

"The modern science of production shows that it is entirely possible to produce enough of the right kinds of food.

"The modern science of nutrition proves beyond doubt that if all people could get enough of the right kinds of food, the average level of health and well-being could be raised much higher than it is now.

"But production alone is not enough. Foods must be so distributed that the levels of consumption of those who do not have enough are progressively raised.

"This implies an expanding world economy, in which each nation will play its own part, but all will act together."

Delegates also agreed on taking immediate steps by concerted action toward realizing such a new world of plenty based on scientific findings. The Hot Springs Conference created, therefore, an Interim Commission to make plans for a permanent international organization to carry through the design of its program.

Two years later, in the winter of 1945, FAO came into being in Quebec, as the first permanent United Nations organization to be set up and with 42 charter members. In 1948, the membership was increased to 58.

The Quebec Conference named Sir John Boyd Orr, Scottish farmer and world-famed nutritionist, as FAO's first Director General. In 1948, Norris E.

Dodd, then Under Secretary of Agriculture of the United States, was elected by a special session of the FAO Conference to succeed Sir John.

The year 1948 was an eventful one for FAO. Its two-sided program of increasing output and improving distribution of the products of farms, forests, and fisheries was progressively intensified all through the year in the following ten major spheres of work:

FAO Council. The council of FAO, or World Food Council—composed of representatives from 18 elected member nations and FAO's ruling body between sessions of the Conference—kept world problems of food and agriculture under constant review. It instructed the Director General to draw up a program of work for 1949, according to the urgency of needs, and to set priorities for the numerous recommendations for FAO activities made by the Conference.

Allocation of Food. International allocation of basic foods such as rice, cocoa, fats, and oils, took the sharp edge off some acute shortages in 1948. This work was continued all through the year without interruption by the International Emergency Food Committee of the Council of FAO, which in January took over the functions and responsibilities of the former International Emergency Food Council. A total of 475 allocations were recommended, and only in 13 cases did a government refuse to concur.

Regional Meetings. Several regional meetings were held in 1948 to lay foundations for future work. At Cairo, representatives of Near East countries made proposals for irrigation and other improvements capable of greatly stimulating the economy of that region. At Baguio, in the Philippines, a series of conferences drew up plans for cooperative action designed to increase rice and fish supplies and to improve the nutrition of peoples of South and East Asia. At Teresopolis, Brazil, a timber conference agreed on far-reaching measures needed for developing the forest resources of Latin-American countries. At Montevideo, Uruguay, the countries of Latin America made plans for future work in nutrition. At Rome, representatives of European National FAO Committees dealt with problems of agricultural rehabilitation and development.

Technical Advisory Services. A wide range of technical advisory services designed to help countries and regions overcome handicaps to increased production and better distribution of food and other products were supplied to member countries all through the year. In Europe, some 35 assignments were completed by the end of June 1948. Hybrid corn seed, which has revolutionized corn production in parts of the United States, was sent by FAO early for distribution to 19 countries in Europe and the Near East. When a blight attacked Italy's chestnut trees—important for both food and timber—FAO helped the country obtain blight-resistant strains from China. FAO experts assisted Hungary in the use of farm machinery. In Poland and Czechoslovakia, FAO veterinary consultants demonstrated methods of controlling animal diseases, such as pig paralysis and tuberculosis.

In China, a many-sided agricultural development program went forward with FAO aid. FAO irrigation and drainage specialists helped in projects in ten provinces that will benefit 1,750,000 farmers. An FAO consulting engineer helped in planning a long-term program for development of flood control, hydro-electric power, navigation, irrigation, and fisheries throughout the Pearl River basin.

On two islands in the Yangtze River, chosen as demonstration areas for an agricultural improvement project emphasizing the use of farm ma-

chinery, FAO specialists helped farmers operate tractors and other equipment in terracing, irrigation, and drainage. In another major project, FAO assisted in an intensive drive against rinderpest—the “cattle plague” which kills a million animals a year in China. A program is now under way for vaccinating 15 million animals against this deadly disease.

Missions. FAO missions went to two countries in 1948, at the request of their governments. One mission went to Siam to make a broad survey emphasizing possible improvements in the production of rice and forest products, and in the management of livestock. One of the findings of the mission was that malaria has been one of the main causes of reduced production. This malady strikes an estimated 3 million Siamese each year and thus weakens the food-producing population. Another mission went to Venezuela to investigate palms and other plants as possible sources of edible fats and oils, long lacking in Venezuelan diets.

Joint Working Parties. In 1948, FAO took active part in various joint working parties set up by the regional economic commissions of the United Nations. For example, working with the Economic Commission for Europe (ECE), one FAO group rounded up and analyzed the agricultural reconstruction and development program of 26 European countries through 1950-51.

With other international agencies a network of cooperation began to develop in 1948. Throughout the year, FAO worked hand in hand with the UN International Children's Emergency Fund, and established a close working relationship with the World Health Organization (WHO). Day to day cooperation on technical matters was maintained with various UN units, such as the Economic and Social Council, the International Bank for Reconstruction and Development, and the International Monetary Fund.

Regional Offices. The nucleus of a regional office for the Near East was established in Cairo during the first part of the year 1948. In Europe, the work of the regional office at Rome began to be supplemented by FAO activities at Geneva, the center for cooperation with ECE. An interim appointment was made of a regional representative for the Far East, whose office is in Bangkok, Siam. Plans were made to appoint a regional representative for Latin America.

Service to Governments. General and regular services to governments, crystallized into more definite patterns as needs became clearer. In particular, the year saw some notable publications in international statistics—*A Yearbook of Food and Agricultural Commodities*, a *Yearbook of Fisheries Statistics*, the first ever to be compiled. Publication of statistical bulletins for agriculture, forestry, fisheries, and nutrition was also begun. A number of technical studies in fields of interest to all or most member nations were published: *Breeding Livestock Adapted to Unfavorable Environments*; *Soil Conservation: An International Study*; *Storing and Drying Grain*.

Annual Conference. The Fourth Annual Conference of FAO was held in Washington in November, 1948. A full-scale consultation on the world food situation and the programs of member governments for the year 1949, were the principal topics discussed by the 58-nation gathering. Perhaps the best way to summarize the achievements of this Conference is to quote the observation made by the Conference Chairman, U.S. Secretary of Agriculture, Charles F. Brannan:

“It has set in motion work on commodity studies and agreements which should do much to promote

an abundant flow of food in the channels of international trade and security for both producers and consumers. . . . It has moved forward FAO's work in the field of increasing production in those areas where such production is so badly needed.”

—NORRIS E. DONN

FOOD AND DRUG ADMINISTRATION. The Food, Drug, and Cosmetic Act, 10 years old in June, 1948, is a proven instrument of consumer protection. In general, manufacturers have come to regard the statute “as a measure of their obligations to the public.” Liberal judicial interpretations and prompt amendatory legislation when additional coverage was required or weaknesses became apparent have strengthened it throughout the decade.

Such strengthening was marked in 1948. In January the Supreme Court sustained the conviction of a retail druggist who had taken prescription drugs from their properly labeled interstate container and sold them without adequate directions or warnings. The Court ruled that the protective features of the Federal law are to be carried through to the ultimate consumer. In June, 1948, Congress amended the Act to cover specifically this type of violation and others whereby foods, drugs, and cosmetics that meet the Federal requirements at the time of interstate shipment might become adulterated or misbranded before they reach the user.

In November, 1948, the Supreme Court ruled that literature designed for use in the distribution and sale of a product is accompanying labeling, whether or not it physically accompanies the article during its interstate journey. This will protect the public from drugs and devices misbranded by misleading literature sent separately from the articles in an attempt to circumvent the rigid misbranding provisions of the 1938 Act.

Three-year jail sentences and the highest total fine of the year (\$18,640) were imposed upon two physician brothers for the distribution of a vinegar solution of saltpeter for the treatment of diabetes, with deaths and serious illnesses resulting. Criminal prosecution cases charging false and misleading curative claims were instituted against 39 medicine and 6 therapeutic device promoters.

Faulty controls in the manufacture and labeling of drugs continued to be a regulatory problem, with more recall programs required in 1948 than in any previous year. In a number of instances, when the efforts of manufacturers and the inspection force failed to recover all potentially injurious lots, the Administration was compelled to issue warnings for the safety of the public. Determined efforts have been instituted by the industry to prevent the occurrence of manufacturing errors.

Improved conditions were found in almost every major food industry. The conspicuously small minority prosecuted for violations received higher penalties, in general, than during any year of food-law enforcement. The highest food fine (\$15,000) was imposed on a macaroni corporation and its manager, for use of rodent-contaminated materials and operations in a filthy factory.

The use of poisonous preservatives or decomposition inhibitors and of mineral oil in foods was encountered rarely in 1948, a result of recent regulatory campaigns against deleterious ingredients. Two-thirds of the food seizures were based on decomposition or filth. Fewer violative frozen foods were found, largely because of more adequate freezing and storage facilities and the withdrawal from the industry of many opportunists without the “know-how” or the will to pack sound products.

Of the three groups of drugs requiring certification before distribution, 269 batches of insulin, 11,564 of penicillin, and 897 of streptomycin were certified. In addition, 4,699 batches of coal-tar colors were certified for use in foods, drugs, and cosmetics.

During the year, 194 new-drug applications were made effective. Relatively few were actually new chemical entities; a large proportion represented new dosage forms, modifications, combinations, or duplications of types of products already known in drug therapy. Each required adequate study by the introducer to assure safety under proper use, and proof that proper production controls can be maintained.

In the fiscal year 1948, 945 shipments of foods, 206 of drugs and devices, 20 of vitamins and foods for special dietary uses, 20 of cosmetics, and 2 of caustic poisons were removed from the market by seizure. Criminal prosecution actions were brought against 421 individuals and firms charged with violating the Act, and 20 injunctions were requested of the courts. Fines in terminated cases totaled \$297,426. In 89 actions the fines imposed were \$1,000 or more. Jail sentences, ranging from 1 day to 3 years, were imposed upon 19 individuals, with sentences suspended for 9 of these defendants, who were placed upon probation.

—PAUL B. DUNBAR

FOOTBALL. The college game, riding a wave of prosperity, continued to gain in attendance, a press survey of 99 major schools showing a rise of almost 6 percent in the number of fans. The colleges in the survey played 487 home contests, before 13,051,248 spectators.

The year was not without the usual number of thrills and upsets, with two of the big surprises coming near the very end of the regular season. The first of these came before 102,500 at Philadelphia's Municipal Stadium when Navy, which had lost all eight of its earlier games, held powerful Army, which had gone unbeaten and untied in eight games, to a 21-21 tie.

Notre Dame, sailing along to its third straight campaign without a defeat, ran onto the rocks before 100,571 in the Los Angeles Memorial Coliseum when three-beaten Southern California reared up to battle the Irish to a 14-14 tie. Only a desperate rally in the closing seconds saved Notre Dame from defeat. The Irish entered the battle with two all-time Notre Dame records to their credit, having won 21 straight games and gone unbeaten through 28 in a row.

The ties dropped Army and Notre Dame from contention for the mythical national title and left Michigan alone at the top. Michigan completed its second straight season with a perfect record and retained the Western Conference championship. Benny Oosterbaan of the Wolverines was voted the coach of the year.

Penn State was victim of another major surprise when it lost to an in-and-out Pitt eleven, 7-0. California had a perfect record in the regular campaign and shared Pacific Coast Conference honors with Oregon. Oklahoma won the Big Seven crown, Army gained the Lambert Trophy as the East's leader, and Cornell was crowned king of the Ivy League. Other champions were Georgia, Southeastern; Southern Methodist, Southwest; Clemson, Southern; Utah, Big Six; Oklahoma A. and M., Missouri Valley; Ripon, Midwest Conference; Toronto, Canadian intercollegiate.

The year produced hundreds of individual stars, with Doak Walker of Southern Methodist winning

the Heisman Trophy as the outstanding player of the season. Charley Justice of North Carolina and Pennsylvania's Chuck Bednarik were among his closest rivals in the voting. Levi Jackson, star back, became the first Negro ever to captain a Yale University sports team when the Elis elected him their 1949 leader.

Northwestern, runner-up to Michigan in the Western Conference, represented the Big Nine in Pasadena's Rose Bowl and turned in a 20-14 victory over California on Ed Tammie's 43-yard run with three minutes to play. Bowl games on January 1 were scattered across the nation, Oklahoma downing North Carolina, 14-6, before 82,000 in the New Orleans Sugar Bowl, while Southern Methodist stopped Oregon, 21-13, in the Dallas Cotton Bowl as 69,000 looked on. Texas routed Georgia, 41-28, before 60,523 in the Miami Orange Bowl, and West Virginia beat Texas Mines, 21-12, in El Paso's Sun Bowl as 20,000 watched.

The annual Shrine benefit game between the East and West at San Francisco resulted in a 14-12 triumph for the East as Columbia's Gene Rossides tallied the deciding touchdown. In Christmas Day benefit contests, the North's Blues set back the South's Grays, 19-13, before 15,000 at Montgomery, Alabama, and the Southern All Stars beat the Northern All Stars, 24-14, before 33,056 in the Orange Bowl.

With the continued war between two rival leagues cutting deeply into attendance, the professionals did not enjoy the success that came to the collegians. Cleveland's Browns continued their domination of the All American Conference by defeating the Buffalo Bills, Eastern Division champions, 49-7, at Cleveland. The Browns set a new pro football record when 82,769 fans filled the Cleveland Municipal Stadium to see a contest with San Francisco.

In the National League, the Philadelphia Eagles won the championship by halting the powerful Chicago Cardinals, Western Division winners, 7-0, in a heavy snowstorm at Philadelphia.

—THOMAS V. HANEY

FORD FOUNDATION. Incorporated on Jan. 15, 1936, in order to receive and administer funds for scientific, educational, and charitable purposes; all for the public welfare. Assets, \$205 million, Dec. 31, 1948. A board of six Trustees and annually elected officers head the Foundation. President, Henry Ford II; Secretary-Treasurer, B. J. Craig. Annual meetings are held in April. Headquarters: 2612 Buhl Building, Detroit 26, Mich.

FOREIGN AGRICULTURAL RELATIONS. Office of. A branch of the U.S. Department of Agriculture which has been collecting, analyzing, and disseminating information on foreign competition and demand for farm products and agricultural policy. Its primary purpose is to study the factors influencing the food supply and needs of foreign countries, competition, trade barriers, production and marketing, and other developments affecting American agriculture. It also directs and coordinates the participation of the Department of Agriculture in the reciprocal trade agreement program and in other international agreements affecting agriculture. Director: D. A. FitzGerald.

FOREIGN AND DOMESTIC COMMERCE. Bureau of. The functions of the Bureau were carried out during the fiscal year (July 1, 1947, to June 30, 1948) by the following five major offices: (1) Office of Business Economics, (2) Office of Domestic Com-

merce, (3) Office of International Trade, (4) Office of Field Service, and (5) Office of Small Business. At the end of the period, principal functions of the Office of Small Business were absorbed by the Office of Domestic Commerce when Congress did not appropriate funds for the continuance of that Office.

Office of Business Economics. The Office of Business Economics was called upon to meet a steady demand for its basic economic data and analyses—a demand which was heightened by the wide attention given to developing postwar tendencies in the domestic economy and the necessity for determining quantitatively the effect of new international programs. At the same time, it was also necessary to concentrate some resources upon bringing up-to-date the work interrupted early in the war emergency period, much of which was essential to profitable analysis for postwar guidance. After publication early this year of the National Income Supplement to the Survey of Current Business, containing completely revised data on the national income and the gross national product for the years 1929 through 1946, these valuable new series were posted quarterly. They are considered standard guides in business operations. Resuming the detailed record of the United States balance of international payments which has been published since 1922, the Office made available "International Transactions of the United States During the War Years, 1940-1945" to provide a comprehensive record of what this country contributed to and received from other nations during 6 years of global war. It has also been possible to footnote and explain the 2,500 statistical series regularly published each month in the Survey of Current Business by issuance of a new Statistical Supplement which in one handy volume carries all those data back to 1935.

OBE has continued to serve the Council of Economic Advisers and other Government agencies through provision of special economic materials and analyses, and has played an important role in the considerations leading to adoption of the Economic Cooperation Program. Successful efforts were made throughout the year to meet the desires of business concerns and trade journals, their economists and advisers, for timely and meaningful presentation of basic economic indicators.

Office of Domestic Commerce. This separate unit of the Bureau of Foreign and Domestic Commerce continued, under a reorganization begun the previous year, the progress in expanding and strengthening its services to business and industry. The trend from a seller's to a buyer's market in several important products brought about increased demands for assistance in meeting conditions in production, construction, distribution, transportation, and market research. Problems arose which were new to many of the persons who had established business enterprises since the beginning of the war.

To assist both business and Government, stress was on a program to develop basic demand-supply studies in the principal industries and several releases on the subjects were made available. Considerable work was done in assembling and issuing marketing information, to be distributed in reply to direct inquiries of individuals and groups or by making more limited reports available to a greater number of people through the Department's Field Service.

Office of International Trade. OIT has three basic responsibilities: (1) to provide information and advisory services to business, the general public, and government regarding economic and trade

conditions in all parts of the world; (2) to consult with business and represent business in the councils of government with regard to international trade policies and specific trade problems; and (3) to promote through all possible means the creation of a balanced, multilateral world trade.

During the fiscal year 1948 these basic service functions continued to be performed: but the year was one of crisis in international political and economic relationships, and heavy demands were made on OIT to contribute its technical services to the solution of critical problems. Of overriding importance in the field of international economic relationships was the growing shortage of dollars throughout the world. This dollar shortage resulted in an increase and intensification of import and exchange controls in many areas and was the basic condition that prompted the European Recovery Program. During the period when the possibilities of an ERP were being explored, the services of OIT's commodity and areas specialists were enlisted to aid in the drafting of the advisory reports; and when the Congress had passed the Foreign Assistance Act and authorized funds, OIT assisted the Economic Cooperation Administration actively in getting the program underway and informing businessmen of ECA procedures and policies.

Another major responsibility of OIT was the administration of an expanded program of export controls. At the end of fiscal year 1947 export controls applied to only about 20 percent of all United States exports. By June 30, 1948, approximately 50 percent of United States exports required export licenses. This expansion was prompted by the increasing use of export controls as an instrument of United States foreign policy and by the increasing pressure of demand upon the United States to supply major quantities of materials and equipment already in short supply domestically. Increased appropriations by the Congress enabled OIT to increase its export staff from 125 at the beginning of the year to approximately 500 on June 30, 1948.

Information on trade conditions was distributed by means of *Foreign Commerce Weekly*, the *International Reference Service*, *World Trade in Commodities*, Trade Lists, World Trade Directory Reports and individual books on specialized trade subjects. Because of the continued surplus of United States merchandise exports over imports, heavy emphasis was placed on the promotion of imports as a means of placing dollars in the hands of other countries. In addition, OIT continued to administer certain operating trade programs such as a British Token Import Plan, the China Trade Act, and the Foreign-Trade Zones Act.

OIT continued to spend much of its effort in interdepartmental councils and international negotiations toward the end of establishing an International Trade Organization, and in the preparatory work for, and the negotiating of trade agreements under the Reciprocal Trade Agreements Act. The guiding aim of all OIT activities is the ultimate establishment of a world trade that will be relatively free of the restrictions, instabilities, discrimination, and bilateral limitations that have characterized international commercial relations in recent years. In the meantime, OIT attempts to help foreign traders in every way possible to carry on their business effectively despite their many handicaps.

The Foreign-Trade Zones Act of June 18, 1934, which authorized the establishment of foreign-trade zones in our ports of entry by qualified public and private corporations, named the Secretary of

as the chairman of the Foreign-Trade Board. In addition to the Secretary of Commerce Board consists of the Secretary of the and the Secretary of the Army.

the year the program for extending the of foreign trade zones in the develop United States import and reexport trade considerable impetus. On Mar. 10, 1948, the recommendation of the Committee of s, the Foreign-Trade Zones Board issued o the Board of State Harbor Commission- establish and operate a foreign-trade zone 5 in the Port of San Francisco. Operation n-Trade Zone No. 3 in this port began 10, 1948.

surveys conducted at Los Angeles, Seattle, Antonio during the fiscal year have mal into formal applications to establish fore- le zones at these locations.

of Field Service. A substantial cut was made field Service virtually offsetting the expan- ich took place during the previous fiscal ith 46 field offices in operation, compared uring the previous year, heavy demands ide on the existing facilities due to the un- economic conditions throughout the world. blems created by dollar shortages in many mportant markets and the signing of the Agreements on Tariffs and Trade in Octo- ight forth a large number of inquiries. The ices continued to play an important part dministration of the export control powers n the Office of International Trade under nd Decontrol Act of 1947. The Trade Con- Program of utilizing services of Foreign officers in the United States on leave was d, and there was an increase of 50 percent umber of cooperative offices maintained by ld Service. A continuing interest existed out the year in information on local and economic trends and a wider use was f material provided by the Department on income and national product, with con- se being made of the wide range of data d by the Bureau of the Census.

of Small Business.* In cooperation with trade fessional associations, bureaus of business y, veterans' organizations, manufacturers, lers, and public interest groups, a program eloped to disseminate management infor- to small businessmen throughout the coun- phasis was placed on this type of informa- cause of the recognition that lack of man- t "know-how" is a leading cause of small- s failures. The Office of Small Business pub- ooklets useful to the small-business operator.

EXCHANGE. In 1948 the deficit of foreign s in their transactions with the United as was considerably reduced as compared with vious year. The excess of exports of Amer- ods and services over imports was approx- \$6,000 million as against \$11,000 million . In part this decline reflected an increase ed States imports due to partial recovery and high business activity at home. To a extent, however, it was caused by a de- in exports brought about by the trade and ge restrictions imposed by foreign countries r gold and exchange resources were depleted roduction of industry and agriculture in- d.

*S.B. was abolished at the beginning of fiscal 1949 a major functions were transferred to a Division of Business in the Office of Domestic Commerce.

While the nations abroad continue to buy in the United States large quantities of essential commod- ities, particularly grain, fuel, industrial raw ma- terials and machinery and equipment, they cut down drastically on imports of non-essentials. This applied not only to the countries receiving aid under the European Recovery Program but also to countries in the Western Hemisphere that were suf- fering from an acute shortage of dollars because of their previous large purchases in the United States and the fact that a considerable part of their earn- ings in Europe were in sterling or other inconverti- ble currencies that could not be used to offset their deficits in trade with the United States. This situa- tion led to widespread tightening of controls on im- ports from the dollar area and to special efforts to increase exports to the United States.

The deficit of foreign nations in their dealings with the United States was made up in part through the shipment of gold and the liquidation of dollar assets here, the increase in the gold stock of the United States amounting to \$1,500 million during the year. In the main, however, the negative bal- ance of payments was covered by loans and grants received from the United States under the Euro- pean Recovery Program (ERP) and the credits ex- tended prior to its inception. Credits received from the International Monetary Fund and the Interna- tional Bank also helped alleviate the dollar short- age.

The manner in which foreign nations were able to finance the goods and services received from the United States is shown in Table 1 which sum- marizes the transactions for the first three quarters of 1948.

TABLE 1—EXPORTS OF GOODS AND SERVICES AND MEANS OF FINANCING, 1948
[Millions of dollars]

Item	First quarter	Second quarter	Third quarter
Exports of goods and services . . .	4,444	4,221	3,071
Means of Financing			
Foreign resources:			
United States imports of goods and services . . .	2,495	2,502	2,076
Liquidation of gold and dollar assets . . .	307	613	189
Dollar disbursements (net) by:			
International Monetary Fund . . .	132	22	6
International Bank . . .	103	67	16
United States Government aid:			
Grants (net) . . .	807	795	1,242
Long- and short-term loans (net) . . .	511	36	-155
United States private sources:			
Remittances (net) . . .	161	158	139
Long- and short-term capital (net) . . .	161	285	239
Errors and omissions . . .	-233	-347	-381

Foreign Aid. During the fiscal year ending June 30, 1948, assistance provided by the United States Government to other countries in the form of grants or credits totaled \$5,400 million as compared with \$6,500 million in the previous fiscal year. Aid in the form of grants increased by almost one-fifth, however, the decline being accounted for by small- er foreign loans. These totals reflected mainly com- mitments made before the European Recovery Program, which was authorized under the Foreign Assistance Act of Apr. 3, 1948, and made itself felt mainly during the second half of the year.

Included in the 1948 fiscal year totals was \$1,700 million remaining on the British loan, which was completely utilized by Mar. 1, 1948. Civilian sup- plies shipped to occupied and liberated areas by the military agencies accounted for \$1,075 million, while loans and credits of the Export-Import Bank made up an additional \$1,102 million. Grants un- der the post-UNRRA, Greek-Turkish, and Philip-

pine rehabilitation programs amounted to \$643 million, while the interim aid authorized by Congress to bridge the gap during the first three months of 1948 provided an additional \$535 million.

The foreign transactions of the United States Government for the fiscal years from 1946 to 1948 are summarized in Table 2.

TABLE 2—FOREIGN TRANSACTIONS OF THE U.S. GOVERNMENT
[Millions of dollars. Fiscal years ended June 30]

Type of Transaction	1946	1947	1948
Grants and credits.....	5,223	6,602	5,385
Grants.....	3,353	2,192	2,583
Lend-lease.....	1,284	1	.....
Military civilian supplies....	744	742	1,075
Economic cooperation.....	.....	.....	205
Relief.....	1,194	1,381	951
Other grants and financial aid..	131	68	353
Credits.....	1,870	4,410	2,802
Dollar disbursements on loans..	558	3,205	2,298
Lend-lease.....	788	481	56
Surplus property.....	496	440	305
Merchant ships.....	.....	141	83
Commodity programs.....	28	142	60
Other outlays.....	2,203	2,016	1,702
Disbursements for goods and services.....	1,516	1,361	1,103
Net military payments to personnel.....	467	228	404
Net payments for special currency.....	152	215	8
Other disbursements.....	69	212	188
Payments to International Bank..	159	476	....
Payments to International Monetary Fund.....	(*)	2,750	....
Receipts.....	1,152	1,863	1,372
Repayments on loans, property credits, and commodity programs.....	108	210	417
Cash.....	108	208	400
Real Estate.....	.....	2	17
Lend-lease cash receipts.....	151	157	16
Cash from surplus-property sales	132	521	247
Cash from other sales.....	610	873	545
Other cash receipts.....	150	102	147
Installations abroad, at end of year	2,273	1,573	1,302

* Less than \$500,000.

The Foreign Assistance Act authorized grants and credits of \$5,300 million to the 16 Western European nations, Trieste, and the zones of Western Germany, comprising the Organization for European Economic Cooperation. While these funds were to be used over the 15-month period ending June 30, 1949, the President was authorized to utilize the entire amount within 12 months if he considered it advisable. A special program of economic and military aid to China, totaling \$400 million, was also voted by Congress.

By the end of 1948, authorizations by the Economic Cooperation Administration (ECA), the governmental agency carrying out the program, totaled \$4,233 million. Of this total, the United Kingdom received \$1,110 million, France \$946 million, Italy \$498 million, Western Germany \$401 million, the Netherlands and Indonesia \$373 million, Austria \$213 million, China \$171 million, Greece \$145 million, and Belgium-Luxembourg \$139 million, with smaller amounts for the other countries.

Of the total procurement authorizations through December 24, food and agricultural commodities made up 45 percent. The principal items were wheat and wheat flour to the amount of \$731 million, cotton \$353 million, fats and oils \$179 million, tobacco \$106 million, sugar \$92 million, meats \$86 million, coarse grains \$81 million, and dairy prod-

ucts and eggs \$75 million. Raw materials, fuels, equipment, and other industrial commodities made up 46 percent of the total authorizations. In this group the major items were petroleum \$394 million, machinery \$393 million, nonferrous metals \$268 million, coal \$206 million, vehicles and equipment \$175 million, iron and steel products \$101 million, lumber, pulp and paper \$101 million, chemicals and related products \$101 million, textiles \$55 million, metallic ores \$46 million, hides and leather \$40 million.

Ocean freight, totaling \$349 million, absorbed over 8 percent of the total. At the start of ECA operations, the greatest emphasis was placed on food-stuffs and other relief commodities. As recovery proceeded in Europe, however, a larger proportion of shipments was made up of capital goods. Thus, in the period from October 1 to November 15 the ECA procurements of industrial equipment and commodities constituted 60 percent of the total as compared with 41 percent in the April-June quarter.

Aside from the contributions to European rehabilitation made by the direct shipments under the program, ECA aided European recovery through the use of the so-called "counterpart funds," which are the shipments in local currency deposited by each of the recipient nations in special accounts in amounts corresponding to the total of the American grants. Under the Foreign Assistance Act, approval of the ECA must be received before these funds can be released, the aim being to avoid their employment for inflationary purposes. Release of counterpart funds in France, Italy and other European countries provided means for the development of local industries and for public works projects, while in Great Britain large amounts were used to retire part of the national debt held by the banking system, thus reducing the money supply.

An important step toward the attainment of another major objective of the ERP, the development of intra-European trade, was taken with the conclusion of a clearing and payments agreement among the Marshall Plan countries. Under this arrangement, ERP nations running a deficit in their trade with other participants are enabled to obtain credits from the latter, while the creditor countries, in turn, are reimbursed with an equivalent amount of dollar grants from the ECA. A clearing organization settles each month's trade payments among the 16 countries. It was hoped that this plan, by making possible more extensive multilateral trade to replace the bilateral arrangements by which accounts had been largely settled, would stimulate the volume of trade within Europe. This, in turn, would reduce the deficits of Western European countries in their trade with the Western Hemisphere.

During the year, the countries making up the Organization for European Economic Cooperation drew up long-range plans for economic development envisaging a steady decline in the payments deficits of the member countries. It was anticipated that the dollar aid needed in 1949 would be somewhat less than in 1948.

The International Monetary Fund and Currency Reform. The International Monetary Fund continued to play an important part in promoting international exchange stability by making available to members experiencing exchange difficulties limited amounts of foreign currencies. These transactions take the form of sales of the desired currency, usually dollars, in exchange for the buying country's currency.

As of Nov. 30, 1948, transactions of the Fund totaled \$649 million as compared with \$468 million at the end of 1947. Of the total Fund sales of all currencies, \$631.5 million consisted of United States dollars. The principal purchasers of United States dollars from the inception of the Fund were the United Kingdom (\$300 million), France (\$125 million), and the Netherlands (\$62.5 million). With Switzerland and Austria signing the articles of agreement, the number of members was increased to 47 as against 38 when the Fund started operations. The applications of Siam and Liberia were also approved. On Sept. 30, 1948, gold holdings of the Fund totaled \$1,403 million and holdings of members' currencies the equivalent of \$5,448 million.

During the year a number of important currency reforms were effected, particularly in France, China and Western Germany. In most of the other countries, with certain relatively minor exceptions in Latin America, the exchange parities remained fairly stable. Table 3 shows the average rates of exchange on 21 countries in December, 1948, and December, 1947. Averages are based on daily noon buying rates for cable transfers in New York City certified by the Federal Reserve Bank of New York.

TABLE 3 FOREIGN EXCHANGE RATES
(Rates in cents per unit of foreign currency)

Country	Monetary unit	December 1948	December 1947
Argentina—"regular" products *	Peso	20.77	20.77
" " "non regular" products *	"	25.12	25.12
" " "certain industrial products *	"	20.00	...
Australia.....	Pound	321.23	321.21
Belgium.....	Franc	2.28	2.28
Brazil.....	Cruzado	5.44	5.44
Canada—official.....	Dollar	100.00	100.00
—free.....	"	92.25	88.36
Colombia.....	Peso	\$ 51.28	56.98
Czechoslovakia.....	Koruna	2.01	2.01
Denmark.....	Krone	20.85	20.86
France (Metropolitan) official.....	Franc	0.47	0.47
—free.....	"	0.32	0.32
India.....	Rupee	\$ 30.17	30.18
Mexico.....	Peso	14.53	20.58
Netherlands.....	Guilder	37.02	37.70
New Zealand.....	Pound	399.15	322.51
Norway.....	Krone	20.16	20.16
Portugal.....	Escudo	4.03	4.01
South Africa.....	Pound	400.75	400.75
Spain.....	Peseta	\$ 9.13	9.13
Sweden.....	Krona	27.82	27.83
Switzerland.....	Franc	23.36	23.36
United Kingdom.....	Pound	403.15	403.13
Uruguay *.....	Peso	65.83	65.83
*.....	"	56.18	56.20

* Quotations nominal. * Revised parity. * Excludes Pakistan. * Through Dec. 17.

On Jan. 25, 1948, the French Government, in order to stimulate exports and attract gold from hoards and abroad, devalued the franc by 44.4 percent, thus raising the official rate for the United States dollar to 214.4 francs (1 franc = 0.47 cents). Simultaneously, a free market was established for the United States dollar and the Portuguese escudo and later for the Swiss franc, operating at the Paris Bourse under the control of the Bank of France.

Although the rates of the "hard" currencies on the free market fluctuated in accordance with demand and supply, the demand was effectively controlled through the issuance of licenses for authorized transactions by the Exchange Control Office (Office des Changes). Moreover, the Bank of France intervened in the free market from time to time through purchases and sales. Nevertheless, the black market in foreign exchange was still very active. On December 17 the United States dollar sold for 545 francs (290 francs on February 1).

The drastic devaluation of the franc and the institution of free-market dealings in only three currencies was strongly opposed by the International Monetary Fund on the ground that it produced a pattern of exchange rates in France at variance with the parities established by the Fund.

On Oct. 16, 1948, the exchange rate of the dollar for export and import transactions was fixed at the average of the official rate of 214 and the free market rate of 313 francs, or about 263 francs. Thus, importers of essential commodities had to pay 263 francs per dollar instead of the former rate of 214 francs. The free market for the dollar, Swiss franc, and escudo continued unchanged for non-commercial transactions.

In an effort to curb the catastrophic inflation which had virtually wiped out the purchasing power of the currency, the Chinese Government on August 19 introduced a new managed gold standard currency called the "gold yuan." The new currency, with a gold content of 0.222 grams, was to be backed by 100 percent reserves consisting of a minimum of 40 percent in gold, silver, and foreign exchange and the remainder in negotiable instruments.

All outstanding legal tender notes (fapi) were to be exchanged for the new currency at the rate of 3 million for 1 gold yuan. Gold, silver dollars and foreign currency held by the public were either to be surrendered to the Government in exchange for gold yuan, at the exchange rate of 4 gold yuan to one United States dollar, or deposited in Government banks to be used for the payment of licensed imports or other authorized purposes. The currency reform was accompanied by a series of emergency measures designed to control and stabilize prices and wages.

With the continuance of the civil war and the huge budget deficit, the emergency measures proved completely ineffective to stem the rising tide of inflation. On November 11 the Government made a number of additional revisions in the currency system. The basic unit of the currency was to be gold yuan coins instead of gold yuan notes, each coin to have a legal content of 4.44 milligrams of fine gold. Possession of gold, silver coins and foreign currency was again legalized, but their circulation and dealings in them were not permitted. United States bank notes could be exchanged for gold yuan coins at the rate of 20 gold yuan coins to one United States dollar. The critical military situation and the collapse of the Chinese economy in the closing months of the year made it highly improbable that the new regulations would have much greater success in stabilizing the currency than the old.

As a step towards the restoration of normal economic life and the establishment of an independent economy in Western Germany, the United States, British and French military Governors introduced a sweeping reform of the currency in June. Under this reform the greatly depreciated reichsmark was abolished and in its place was issued a new deutsche mark at the rate of 10 old marks for one deutsche mark. In general, all unpaid debts were to be written down to one-tenth of their normal value, but salaries, wages, pensions and similar payments had to be continued on a 1-to-1 basis.

Under a new currency law issued at the beginning of October, the Allied Military Government wiped out a substantial part of the blocked balances of currency holdings and bank deposits, estimated at approximately 5 billion deutsche marks. The new law cancelled 70 percent of the blocked holdings, released 20 percent to the owners, and

kept 10 percent blocked, with the provision that it could be used for investment purposes subject to government regulations. The months following the reform were marked by a substantial increase in industry and trade.

On August 19 the New Zealand Government raised the exchange value of its currency by 25 percent, bringing it to parity with the British pound sterling. This upward revaluation of the currency from the level where it had remained since 1933 was stated to be necessary in order to reduce the cost of imported goods so as to lower production costs and the general cost of living.

International Bank. The International Bank was relatively inactive in 1948 so far as loan operations were concerned. The only new loans were one in Swiss francs to the equivalent of \$4 million made to the Netherlands Government and one of \$12 million made to four Dutch shipping companies, the first loan to private enterprise made by the Bank. The latter credit, given for the purchase of ships, was secured by notes guaranteed by the Dutch Government, the bulk of which were immediately sold to American banks.

As of December 1, loans made by the Bank totaled \$509 million. In addition, there was outstanding a commitment of a loan to Chile of \$16 million subject to ratification by the Chilean Government. The Bank reported it had under consideration applications from many nations for loans for reconstruction purposes. Discussions were being conducted in more than 20 countries with regard to the Bank's participation in the financing of projects such as power developments, transportation and communication facilities, irrigation works, mining plants and industrial enterprises.

Gold Imports. During 1948 foreign nations continued to draw on their gold reserves in order to redress their payment deficits with the United States, although at a slower rate than in the previous year. In the 12 months ending Dec. 15, 1948, the monetary gold stock of the United States increased by \$1,507 million as against \$2,225 million in 1947 aside from \$687 million paid to the International Monetary Fund as the U.S. subscription. Of the total gain in 1948, approximately \$75 million was represented by domestic gold production and the remainder by gold exported for sale in the United States or gold released from earmark for foreign account to be sold to the United States Government. At the year's end the nation's monetary gold stock reached the record total of \$24,243 million. The decline in gold imports in 1948 was due to grants under the European Recovery Program (ERP), to reduced imports of American goods brought about by exchange restrictions imposed by European and Latin American countries, to the depletion of foreign gold and exchange reserves, and to increased commodity imports by the United States as a result of economic recovery abroad.

—SAMUEL S. SHIPMAN

FOREIGN LIQUIDATION COMMISSIONER. Office of. The Office of the Foreign Liquidation Commissioner of the U.S. Department of State was created by order of the Secretary of State, effective Oct. 30, 1945, with authority to carry out the functions transferred to the Department of State by Executive Order 9630 dated Sept. 27, 1945, i.e., disposal of surplus property located in foreign areas and residual lend-lease functions. At the same time the Secretary of State named Mr. Thomas B. McCabe as Commissioner and Maj. Gen. Donald H. Connolly as Deputy Commissioner.

Maj. Gen. Connolly was later appointed Com-

missioner to succeed Mr. McCabe who resigned on Sept. 20, 1946, and held office until Mar. 31, 1948, when he resigned as Commissioner and was succeeded by Mr. Fred W. Ramsey, former Deputy Commissioner who administered the affairs of the OFLC until his resignation on July 31, 1948. Maj. Gen. Clyde L. Hyssong, former Central Field Commissioner for Europe, succeeded Mr. Ramsey and assumed responsibility Aug. 1, 1948. The remaining lend-lease functions (except for certain field operations) were subsequently transferred from OFLC to the Office of Financial and Development Policy of the Department of State on Mar. 24, 1947.

OFLC is the disposal agency for United States surplus property located outside the continental United States, Alaska (including the Aleutian Islands), Puerto Rico, and the Virgin Islands. Property declared surplus by agencies of the government is sold through field offices in various parts of the world subject to supervision by the Washington Office. These field offices are located in Paris, Manila, Sydney, Shanghai, Tokyo, Guam and Balboa. In addition, a field commissioner for Military Programs and a field commissioner for Canada and North Atlantic areas are stationed at the Washington office.

Property is sold on a "where is—as is" basis and prospective customers are therefore advised to inspect property. Importation into the United States of surplus sold in foreign areas is prohibited generally although some exceptions are provided for in FLC Regulation 8. Owning agencies are responsible for the care, handling and storage of surplus property until removed by the purchaser or abandoned. As of Sept. 30, 1948, property having an original cost of \$10,246 million had been declared surplus to the OFLC. Operations through Sept. 30, 1948, disposed of property which had originally cost \$10,067,927,000 for a total realization in the form of cash, credit and foreign currency amounting to \$1,882,959,000.

The OFLC is responsible, also, for the sale of any returned lend-lease property which is subsequently declared surplus and for the sale of properties allocated to the United States Government by the Inter-Allied Reparation Agency, as reparations from Germany. German manufacturing equipment made available by the Allied Control Authority as reparations for allocation among the Western allies is requested for the United States only when the U.S. Department of Commerce has determined that such property can be utilized directly by United States industry or Government Agencies and its use will be generally beneficial to the American economy.

—CLYDE L. HYSSONG

FOREIGN-TRADE ZONES BOARD. A Board constituting the Secretary of Commerce, the Secretary of the Treasury and the Secretary of the Army, which was created by the Celler Act in 1934 to provide for the establishment, operation and maintenance of foreign-trade zones in the United States. The Chairman is the Secretary of Commerce. Foreign-Trade Zone No. 1 at Stapleton, Staten Island, New York, was opened in 1937. Foreign-Trade Zone No. 2 was opened on May 1, 1947, in New Orleans, La. Foreign-Trade Zone No. 3 was opened at San Francisco, Calif., on June 10, 1948. Applications for zones from Los Angeles, Calif., Seattle, Wash., and San Antonio, Tex., were under consideration.

FOREST SERVICE. U.S. Fifty years of development of national forests in the United States was reviewed

in the 1948 report of the Chief of the Forest Service. The national forest system, which began with the reservation of certain areas of public domain land in the western States in the 1800s, now embraces nearly 180 million acres, located in 40 States and the territories of Alaska and Puerto Rico. It is being administered by the Forest Service under a multiple-purpose system of management that looks to the development and maintenance of its resources for permanent public use and benefit.

Establishment of national forests marked the first great step in the forest conservation movement in the United States, the report said. The national forest system still represents the Nation's largest tangible accomplishment in forest conservation.

Timber output from the national forests has increased rapidly in recent years. The total cut of nearly 4,000 million board feet in 1948 was nearly treble that of 10 years earlier. With construction of more access roads and intensified management, the report said, the sustained yield of timber can be increased another 50 percent within a few years, and eventually even greater production can be obtained.

With 16 percent of the nation's commercial forest land, the national forests now contain more than 30 percent of the nation's total volume of standing sawtimber. National forest timber is therefore becoming increasingly important in meeting the country's needs for forest products. But with only 16 percent of the commercial timberland, the national forests cannot supply all of the nation's requirements for wood. The report said that timber growth on forest lands in all ownerships must be built up if adequate future timber supplies are to be assured.

In addition to producing timber, national forests, mainly in the western States, are providing seasonal grazing for some 9 million head of cattle and sheep. Demand for grazing privileges greatly exceeds the amount of national forest range available. National forests harbor more than 2 million deer, elk, and other big-game animals—about a third of the nation's total big-game population. One of the deer and elk ranges have become too heavily populated, with resulting damage to the range and loss of animals through starvation and disease. The Forest Service is cooperating with its game departments in measures to bring game numbers into balance with natural food supply. More than 21 million recreationists visited the national forests in 1947, and recreational use in 1948 was expected to exceed this figure. The Forest Service has developed 4,500 camping and picnic areas and 230 winter sports areas. Four hundred organization camps are maintained by the Forest Service and civic and welfare organizations provide low-cost vacations for underprivileged children and other groups. Within the national forests are 90,000 miles of fishing streams. More than 3,000 miles of national-forest highways and roads are available to motorists, and 88,000 miles of trails for hikers and horseback riders.

Watershed protection is a major objective in national forest administration. National forest lands are the source of water supply for hundreds of towns and cities, for many industrial plants and power projects, and in the western States for most of the irrigation agriculture.

For further development of the national forests, the Chief Forester recommended more intensive management of timber, water, and forage resources; more tree planting and range reseeding, and strengthening of protective work against fire, insects, and tree diseases. He also recommended con-

solidation of existing national forests through public purchase of intermingled private lands within forest boundaries, and extension of national forests in certain areas of critical watershed importance or other high public value.

Alaska Timber Sale. In August, 1948, the Forest Service accepted a bid for 1,500 million cubic feet of timber in Tongass National Forest in southeastern Alaska. The purchaser was the Ketchikan Pulp and Paper Company, an affiliate of the Puget Sound Pulp and Timber Company of Bellingham, Wash., which plans the establishment of a modern pulp mill with an ultimate capacity of some 500 tons per day, near Ketchikan.

This pulp-timber sale was the culmination of 30 years of effort on the part of the Forest Service to bring a pulp and paper industry to Alaska. The Ketchikan pulp-timber unit is the first of several such units in the Tongass National Forest which the Forest Service plans to develop. The sale marks the first step in opening up the Territory's huge pulp-timber resources, the largest untapped resources of the kind on the continent.

Looking to the establishment of a stable major industry, with year-round operation and employment, the timber sale is expected to play an important part in expanding the economy of Alaska on a sound and secure basis. The sale contract requires handling the timber on a sustained yield basis, safeguarding of salmon spawning streams, preservation of outstanding scenic areas, and prevention of stream pollution.

Cooperative Work. Under authorization of the Clarke-McNary Act, the Forest Service cooperated with 43 States and Hawaii during the year in the prevention and suppression of forest fires on State and privately-owned lands. Organized protection was provided for 328 million acres, an increase of 9 million acres over the preceding year. There are 111 million acres of private land, however, which as yet receive no organized fire control. The U.S. Congress raised the Federal appropriation for cooperative fire protection from \$3.3 million in fiscal year 1947 to \$9 million (the ceiling under present law) for 1948.

Latest estimates by Federal and State foresters of the cost of providing complete protection for all State and private forest lands was \$40 million, of which the Federal Government's share in a cooperative program would be \$20 million.

The Forest Service also cooperated with 42 States and two Territories in production and distribution of trees for farm woodland and shelter-belt planting. More than 42 million trees were distributed to farmers at cost or less under this program during the year.

Research. A number of promising hybrid pines have been produced at the Institute of Forest Genetics, Placerville, Calif., a branch of the Forest Service's California Forest and Range Experiment Station. Among the hybrids are various crosses between Ponderosa pine and Jeffrey and Coulter pines, between jack pine and lodgepole, and between eastern and western white pines. Several of the hybrids show "hybrid vigor," growing faster than either parent. Others combine rapid growth of one parent with hardness of the other. During the year 1948 the station began mass production of seed and nursery stock for large-scale testing of these hybrids under forest conditions.

A special study of the relation of watershed conditions to flood run-off was made by a group of Forest Service watershed specialists during the Columbia River flood of 1948. Immediate causes of the flood were abnormal accumulations of snow

in the mountains, late spring, prolonged rains, and a sudden unseasonable hot spell that quickly melted most of the snow. The watershed technicians found ample evidence, however, that damage would have been less severe, and that considerable water would have been held back until after flood peaks had passed, if millions of upland acres had not previously been depleted of their plant and forest cover.

As late as June 14, about 15 days after the flood peaks had passed, timbered areas were found that were still blanketed with snow, while burned-over areas nearby were snowless. In many instances, burned and denuded north and east slopes, that normally should hold their snow longest, had lost all snow, while timbered south and west slopes were still snowbound.

Rough ground measurements on a number of small drainages showed peak discharges from denuded lands averaging 50 percent higher, and in some cases nearly 100 percent higher, than those from lands of similar elevation and topography with good forest or vegetative cover. Water runoff from burned, destructively logged, or overgrazed drainages also carried more debris, caused more channel and bank cutting, more sedimentation in lower streams and damage to roads and bridges.

The effect of shelterbelts on snow in the Great Plains region led the Forest Service to investigate possibilities for saving water that might otherwise be lost in semi-arid regions. Experiments in Utah, with snow fences used as shelterbelts, indicated that shelterbelts planted at right angles to prevailing winds in open areas at high elevations would accumulate snow to great depths. Then, with the protection of the trees, melt would be delayed and water would be made available for later spring or early summer flow.

By applying techniques developed through Forest Service research, private stockmen have successfully reseeded more than 680,000 acres of depleted range land in Utah, Idaho, Nevada, and Wyoming. In addition the Forest Service has reseeded some 150,000 acres of national forest range in the Intermountain region.

Many species and strains of grasses and legumes from different parts of the world are being tested in nurseries in the western, southern and southeastern regions. Tests of the preference of grazing animals for a number of species, conducted by the Forest Service in the Intermountain region during the year, showed that some little known species have a higher preference value than crested wheatgrass, an introduced species that has been widely used for range seeding.

On the Jornada Experimental Range, maintained by the Forest Service in the semi-desert country of New Mexico, beef production per breeding cow has been almost doubled through improved range and cattle management measures. In the early '20s, calf crops on this range averaged 74 percent and calves weaned at about 275 lb. In recent years, the Forest Service reported, calf crops on the same area have averaged 90 percent, and the calves 411 lb. at weaning. The increased production has come about through more conservative stocking, deferred grazing of parts of the range, and other management procedures developed through research.

At the Forest Products Laboratory, maintained by the Forest Service in Madison, Wisc., more than 20 tons of molasses were prepared from wood during the year and shipped to various agricultural experiment stations for tests as supplementary feed

for livestock and poultry. Tests are under way on dairy and beef cattle, lambs, calves, hogs, chickens, and turkeys.

Production of molasses or yeast from wood sugars for the feeding of poultry and livestock is a promising field for use of large quantities of waste material from sawmills and wood-working plants and of lowgrade wood now unused. One ton of dry wood can yield approximately one-half ton of sugars, and sugar can be made out of practically any wood, with or without bark. There is also a large potential field of use for wood sugar in the production of industrial chemicals, such as ethyl alcohol, butanol, glycerine, and 2,3 butylene glycol.

Although nails have been used since early times to fasten wood members together, little attention has been given to a recommended practice or standard procedure for good nailing. To fill this gap in technical literature on home building, the Forest Products Laboratory, in cooperation with the Housing and Home Finance Agency, issued a publication on the *Technique of House Nailing*. Based on data obtained from observations of nailing practices, information from architects, engineers, and carpenters, and laboratory tests, the publication gives recommended nailing procedures to insure satisfactory strength and rigidity of the structural parts of a house.

To meet a need for specifications that will permit the segregation of sawlogs into quality classes according to their yields of the various grades of lumber, the Forest Products Laboratory completed a set of hardwood sawlog grades for application on a national basis. The starcaru grade specifications will help the timber owner realize the full value of logs he markets, provide the lumber manufacturer the option of buying quality classes of logs that best meet his requirements, and the forester with the means of making more accurate inventories and estimates. Work was started on the development of southern pine log grades.

A new type of structural material known as "sandwich" construction is now available to the designer, architect, or engineer for use in aircraft, housing, or wherever a lightweight, strong, rigid material is desired. The "sandwich" is made of high density, high-strength facings firmly bonded to a light, low-strength core.

To facilitate its full utilization, the Laboratory undertook to establish design data through tests of the properties of the component materials. Properties of the most common facing materials, such as veneer and plywood, and of many core materials have been established, and evaluation studies of others are being continued.

Paul Smith's College in New York made available to the Forest Service 2,000 acres of the college's land for an experimental forest, to be devoted to research and demonstration of timber growing and harvesting methods in the Adirondacks region. The Interstate Commission on the Delaware River, in cooperation with the State of Pennsylvania, procured a tract for an experimental forest and turned it over to the Forest Service's Northeastern Forest Experiment Station for studies of forest and water relationships.

Publications issued by the Forest Service during the year included *Tree Breeding at the Institute of Forest Genetics*; *the Anthracite Forest Region*; *Red Pine Management in Minnesota*; *Silvicultural Management of Black Spruce in Minnesota*; *Some Principles of Visibility*; *Tree Planting in the Central, Piedmont, and Southern Appalachian Regions*; *Know Your Watersheds*; *Watershed Management for Summer Flood Control in Utah*; and a fiftieth

anniversary booklet on *The Black Hills National Forest*.
—CHARLES E. RANDALL.

FORMOSA (Taiwan). An island near the southeast coast of China. It was under Japanese control from 1895, when it was ceded by the Chinese to the Japanese, until V-J Day in September, 1945, after which the Chinese resumed the administration of the island. Total area, including the Pescadores: 13,889 square miles. Total population (1946): 6,083,617, exclusive of 4,318 foreigners. Chief cities: Tei-pai (340,114 inhabitants in 1940), Tainan, Ki-lung (Kurun), and Taichu. Principal crops are rice, tea, sugar, sweetpotatoes, ramie, jute, and turmeric. Camphor is worked under government monopoly. Estimated tea production (1947), 15 million lb.; sugar 300,000 tons in 1945 against only 100,000 in 1946. Mining is progressing and includes gold, silver, copper, and coal. Governor General: Wei Tao-ming (appointed May, 1947).

FOUNDATIONS. Probably the most significant event in this field during 1948 was the Second International Conference on Soil Mechanics and Foundation Engineering. Some 400 delegates from nearly every country in the world met in Rotterdam, Holland, on June 22-29. In addition to the many papers read and discussed at the meetings, more than 350 papers were presented and incorporated in the 7 volumes of proceedings.

The first meeting of the group, held at Harvard in 1936, presented methods and theories concerning the stability and settlement of various bodies of soil under load. Most of that knowledge was theoretical or based on laboratory tests. The 1948 meeting mainly outlined the findings of practical engineers in relation to these theories, and showed where modifications and future study are most needed. For instance, the findings for cohesionless soils were generally correct, while clay soils behave with less regularity and each formation has its individual characteristics. Also the theories presuppose a few well-defined strata of soil, which is often not the case, as with the land for Stuyvesant Town in New York City. Here some of the buildings are constructed on solid ground while others are on areas reclaimed from the East River, consisting of fill on coarse to fine silty sands. The foundations on the higher ground are of spread footings, while the others are constructed on cast-in-place button-bottom concrete piles, some of which are supported on solid strata and others by friction.

The General Electric Company at Schenectady made an interesting experiment on the settlement of various types of friction piles under both static and vibrating loads to determine the best type for their new turbine assembly and testing plant. Button-bottom, pedestal, composite pipe and cased-concrete, composite wood and cased-concrete were tested. From these tests it was decided to support the precision equipment and heavy crane columns on steel H piles driven to hard pan and to use pedestal piles in areas of lighter load.

The new five-story Coca-Cola bottling plant in New York City which is designed to support a considerable weight on a minimum number of pillars is founded on 38-in. caissons, 60 ft. apart, which are socketed 6 ft. in bed rock and extend to the second floor level.

Plans for the Pacific Telephone and Telegraph Company's building at Oakland, California, called for a load of 18,300 pounds per square foot on one wall as against an average of 6,000 psf for the building as a whole. No rock bottom could be reached so 18-in. steel tubes with a 20-in. clearance

were driven to a layer of dense sand at 80 ft. The rest of the building will rest on a 5 ft. concrete slab.

In the marine field where strength and stability are desired, the steel H pile is finding favor, as in the Humble Oil Company's derrick platform, 8 miles off the Louisiana coast, which was constructed of one hundred 96 ft. H piles encased in pipe and arranged in braced towers of four. This 5,000 ton structure, standing in 48 ft. of water, was designed to withstand a hurricane force of 125 m.p.h. and 32 ft. waves and to last for 30 years. It provides a stable 5-acre island for drilling operations and quarters for a crew of 54.

These piles with a concrete cap were also used in a new pier for the Seafarmer Lines in New York harbor which supports a huge fixed crane, and in mooring islands for the reserve fleet at San Francisco designed to hold ships against a 50 m.p.h. wind and a 4 knot tide. The new Rickenbacker Causeway between Miami and Key Biscayne, which is also designed to withstand hurricane winds and waves, is constructed on a concrete filled fluted steel shell pile. J. W. HAZEN

FRANCE. A republic of western Europe, and the chief division of the French Union (q.v.).

Area and Population. Area: 212,650 square miles. By the peace treaty of Feb. 10, 1947, Italy ceded 4 small frontier districts to France, including the villages of Tenda and Briga, which voted for inclusion in France on Oct. 12, 1947. Population according to 1946 census: 40,518,884. Chief cities (1946 census): Paris, 2,725,374; Marseilles, 635,959; Lyons, 570,622; Toulouse, 264,411; Bordeaux, 253,751; Nice, 211,165; Nantes, 200,265; Lille, 188,871.

Education and Religion. Education is free in all elementary state schools and is compulsory for all children of the 6-14 age-group. In 1947 there were 3,773 infant schools (both state and private) with 343,600 pupils; 80,939 elementary schools (both state and private) with 4,702,284 pupils; and 17 state universities with 123,313 students. No religion is officially recognized by the state.

Production. Average monthly production in thousands of metric tons in 1947: coal, 3,769; lignite, 175; crude petroleum, 4.2; iron ore, 1,558; pig iron and ferro-alloys (excluding ferro-alloys made in electric furnaces), 407; steel ingots and castings, 479; woven cotton fabrics, 11.2; cotton yarn, 17.0; wool yarn, 9.7; rayon filament yarn, 3.10. Total production in 1947 in metric tons: wheat, 3,600,000; barley, 1,110,900; oats, 2,770,000; sugar beets, 6,980,000. In 1946, the output of wine totaled 830,080,000 U.S. gallons. On Dec. 31, 1945, the number of farm animals were: horses, 2,257,000; mules, 87,000; asses, 103,000; cattle, 14,273,000; sheep and lambs, 6,632,000; pigs, 4,386,000. In September, 1948, the industrial production index number (1938 = 100) was 104.

Foreign Trade. In 1948, exclusive of silver bullion and specie, the estimated value of imports was 618,116.4 million francs (346,692 million francs in 1947); exports totaled 398,661.6 million francs (213,420 million francs). Beginning in April, 1948, the values of imports and exports includes the external trade of the Saar.

Finance. For 1947 revenue totaled 610,583 million francs, and expenditure 416,505 million francs. The public debt (Dec. 31, 1947), excluding 1914-1918 war debts, totaled 2,490,073 million francs, of which 2,117,597 million francs represented domestic public debt. At the end of October, 1948, currency in circulation totaled 918 million francs.

The cost of living (cost of food in Paris) index (1937 = 100) in October, 1948, was 2,204.

Communications. The railways, in 1946, carried 696,280,000 passengers and 125,789,000 tons of merchandise. In 1947, the telephone systems had 1,997,335 subscribers.

Government. According to the Constitution of the French Republic (passed by the second Constituent Assembly on Sept. 29, 1946, and adopted by referendum on Oct. 13, 1946), which came into force on Dec. 24, 1946, the sovereignty of the "indivisible, laic, democratic, and social republic" (Art. 1) is vested in the French people and exercised through its representatives and by way of referendum (Art. 3). The National Assembly of 618 members, elected by equal, direct and secret universal suffrage, is the dominant power in the French legislature. There is a Council of the Republic of 320 members elected by communal and departmental bodies, by means of direct universal suffrage. The President is elected, by both houses, for a 7-year term; he may be reelected once. President of the Republic (1947-53): M. Vincent Auriol (Socialist); Cabinet: see *Events* below. See FRENCH UNION.

Events, 1948. During the anniversary year of the founding of the short-lived Second Republic, the course of business and politics in the Fourth Republic was calculated to convince even the most ardent optimists of the soundness of the judgment expressed by André Gide in his *Journal* in 1939: "Everything seems, alas, to prove to me that Frenchmen, of all the peoples I know, are the ones most deficient in civic spirit and in that solidarity without which a republic comes to be the greatest detriment to all."

The so-called Monnet Plan, first announced in 1946, promoted increased production in many lines, but produced no stability and little prospect of the full utilization of resources required to repair the ravages of war and make the French economy prosperous and secure. The farmers and upper bourgeoisie, enjoying many privileges and occupying a strategic political position, lived well but exhibited a minimum of enthusiasm for sacrifices for the sake of the national welfare. The lesser bourgeoisie and the industrial workers suffered acutely from constantly rising prices while wages, salaries, and profits of small business steadily lagged behind.

Effective remedial measures were rendered politically impossible by the increasingly precarious position of the parties of the "Third Force." Marshall Plan aid seemed less likely to effect any permanent cure of France's economic ills than to alleviate symptoms and defer a major financial and economic crisis which would inevitably play into the hands of the Communists and DeGaullists.

The extremists of the Right, in the name of ultra-nationalism and anti-Communism, capitalized ambivalently on the radicalism of the petite bourgeoisie and the conservatism of the peasantry. The extremists of the Left, tightly controlled from Moscow via the Cominform since the summer of 1947, exploited the grievances of the workers and bent their efforts toward wrecking the Marshall Plan in the name of resisting "American imperialism."

The political center stumbled and tottered and yet, almost miraculously, retained power—without being able to use it effectively to achieve unity and recovery at home or prestige and influence abroad. A year which opened darkly came to a close with even blacker shadows falling over the hopes of those for whom *Liberté, Egalité, Fraternité* were more than mere words.

Frenzied Finance. The Schuman Cabinet of Nov. 24, 1947 survived the strikes of December and obtained a temporary respite from disorders through the defeat of Communist plans. At the turn of the year the anti-Communist elements in the Communist-controlled General Confederation of Labor (CGT) seceded to form the *Force Ouvrière*, led by Socialist Léon Jouhaux, which won the support of perhaps a million of the six million members claimed by the CGT.

Early in January the Cabinet staked its fate on an anti-inflationary and budget-balancing program of Finance Minister René Mayer by which all persons with incomes over 450,000 francs would be obliged to pay a super-tax or invest in government bonds. On January 3 a Communist-DeGaullist amendment to the tax bill was defeated in the National Assembly, 322 to 262.

Despite British protests and criticism from the International Monetary Fund, the Cabinet on January 25 announced a new rate for the franc for export and essential import purposes: 214.3 to the dollar (instead of 119.1) and 864 to the pound (instead of 480). An internal "free market" for gold and for American, Swiss, and Portuguese currencies was likewise established, with exporters permitted to convert half of their proceeds at the new fixed rate and half at the "free rate," which was fluctuating around 313 francs to the dollar by the close of the year.

On January 30 the Assembly approved legislation authorizing possession of, and free trade in, gold; legalizing the ownership of foreign securities by Frenchmen, subject to repatriation of such assets and payment of a tax of 25 percent of their value; and requiring all 5,000 franc notes to be turned in and exchanged for receipts which were to be redeemed later, in new currency, at a part of their face value.

These steps, combined with the reopening of the Spanish frontier in February, were designed to expand exports, increase public revenues, reduce the illegal hoarding of gold and foreign securities, encourage production, halt inflation, and balance wages and prices. After much controversy and by a narrow margin, the Schuman Cabinet secured parliamentary approval for supplementary fiscal measures early in March.

ECA grants were extended in generous measure throughout the year and were regularized under the terms of the accord signed on June 28. But the objectives of economic stability and ultimate self-support were not attained. Production increased in some lines. Unemployment increased in others. Profiteering on the black market by many farmers and some businessmen was matched by the progressive impoverishment of wage-earners and salaried employees as prices continued to climb.

That France's economic disorder was uncured, and perhaps incurable, by year's end was suggested by the Cabinet's astronomical budgetary proposals of December 14: total state expenditures for 1949 were estimated at 1,250,000 million francs, with military costs at 350,000 million francs and "capital investments" (reconstruction, merchant marine, and industrial equipment) at 615,000 million francs—of which 280,000 million were expected to be derived from Marshall Plan counterpart funds; all taxes were to be raised 10 percent; 100,000 million francs were expected to be realized from internal loans.

Such prospective "budget-balancing," undertaken to induce the U.S. Congress to continue ECA subventions, was widely recognized to be fictitious,

with the solvency of the state and the recovery of the economy both receding into an ever more remote distance.

Mid-Summer Crisis. Politics in springtime found the Cabinet harassed by steadily rising living costs, mounting demands for wage increases, DeGaullist maneuvers to effect a "coalition" with the "Third Force," and Communist defiance of the Government's domestic and foreign course.

Proposals to dismiss 150,000 state employees provoked a crisis within the Cabinet which was resolved by a "compromise" involving few or no dismissals. A strike of rubber workers in Clermont-Ferrand in mid-June led to rioting, sympathy strikes elsewhere, and a Communist-led one-hour general strike in protest against "police violence."

The *Force Ouvrière* and the Catholic Unions resisted Communist demands for a general 20 percent wage increase, but warned M. Schuman on July 5 that his price-reduction program was "weak, timorous, and insufficient" and that "the working class will no longer be duped." Various groups of civil servants went on strike in July.

On July 19 the eight Socialist Ministers resigned in protest against the Premier's refusal to reduce military appropriations—a position in which he was also opposed by the Radical Socialists but supported by the MRP. The Assembly voted 297 to 214 to amend the budget in accordance with the Socialist demand. The fall of the Schuman Cabinet led President Auriol to appoint Radical Socialist André Marie to the Premiership on July 21. Three days later he was upheld by the Assembly, 352 to 190. His Cabinet was composed as follows:

Vice Premiers: Léon Blum, Socialist; and Pierre Taitgen, MRP (Popular Republican Movement).
 Foreign Affairs: Robert Schuman, MRP.
 Interior: Jules Moch, Socialist.
 Armed Forces: René Mayer, Radical Socialist.
 Finance and Economic Affairs: Paul Reynaud, Independent Republican.
 Commerce and Industry: Robert Lacoste, Socialist.
 Agriculture: Pierre Pflimlin, MRP.
 National Education: Yvon Delbos, Radical-Socialist.
 Reconstruction: René Coty, Independent Republican.
 Colonies: Paul Coste-Floret, MRP.
 Public Works: Christian Pineau, Socialist.
 Labor: Daniel Mayer, Socialist.
 War Veterans: André Mariotti, Radical Socialist.
 Justice: Robert Lecourt, MRP.
 Health: Pierre Schneider, MRP.
 Ministers of State: Henri Queuille, Radical Socialist; and Paul Ramadier, Socialist.

Reynaud's proposals for drastic economics and the lifting of many controls over business activity soon brought the new Cabinet to grief. On August 11, despite a Communist filibuster, the Deputies, 325 to 215, voted economic emergency powers to the Ministry. The Assembly resolved on August 25 to postpone the local elections planned for October (later scheduled for March, 1949). But on August 28 Socialist opposition within the Cabinet to Reynaud's program compelled the Ministers to submit their resignations.

The ensuing crisis was prolonged and difficult. Following Ramadier's abandonment of the task, Schuman tried his hand anew at Cabinet-making, only to be defeated, 295 to 289, on September 7. On the next day Radical Socialist Henri Queuille was named Premier. He was supported by the Assembly, 351 to 196, on the 10th. His Cabinet was virtually identical in composition with its predecessor, save that Marie became Vice Premier and Minister of Justice. DeGaulle's bid for power in a southern campaign tour was without immediate results.

Socialist anxieties over labor unrest were met by a cost-of-living bonus, pending wage increases.

The Autumn Strikes. The Queuille Cabinet survived numerous parliamentary attacks but soon found itself confronted with fiscal problems and labor demands which precluded any enduring solution of the French economic dilemma. The franc slumped. Police and strikers clashed in Paris on September 15. DeGaullists and Reds fought at Grenoble on the 18th, with one Communist killed. Parliamentary approval of a 15 percent wage increase did not prevent numerous protest demonstrations and work stoppages provoked by continued inflation.

On October 3 some 300,000 coal miners went out on a strike of indefinite duration, with an estimated loss in coal production of 150,000 tons per day. That the miners were desperate is shown by initial support of the strike by the Catholic Unions and the *Force Ouvrière*. On October 27 John L. Lewis, while condemning "the east-iron and Oriental philosophy of Communism" demanded that President Truman intervene, through control of Marshall Plan funds, to "stop the shooting of French coal miners who are hungry. . . Oppression and hunger beget Communism."

At the same time, as in 1947, the Communist Party, under Cominform directives and with Soviet support, did all in its power through its leadership of the CGT to intensify and prolong the strike and to cripple French economy in other sectors by brief "rotating" strikes, with the ultimate objective of aiding the U.S.S.R. against the U.S.A.

Premier Queuille declared on October 9 that the Government "will take all measures necessary to halt an agitation which is taking on an insurrectionary character." ICA Director Paul C. Hoffman opined that the mine strike was "Moscow-directed." Jules Moch asserted that the Cabinet had documentary evidence of Soviet machinations. When sabotage and sit-down tactics were resorted to by the miners, troops were ordered to occupy the properties.

Widespread rioting and bloodshed ensued, accompanied by arrests, deportation of alien agitators, and cancellation of family allowances for strikers. On October 29 the *Force Ouvrière* and the Catholic Unions instructed their members to return to the pits. Not until November 27 did the CGT follow suit, after an estimated nine-tenths of the miners had already resumed work. Communist prestige suffered badly from this defeat. French production suffered more.

Electoral Demi-Tasse. Meanwhile, the members of the Electoral College chosen in October cast their ballots on November 7, in the only French election of the year, for a new Council of the Republic. This test of party strength was scarcely indicative of popular preferences in view of the complex system of indirect choice for the upper chamber of the national legislature. The trend of the balloting, however, doubtless reflected public sentiment to an appreciable degree. Of the 320 seats, DeGaullists supporters or sympathizers won 130. The Communists, who formerly held 84 seats, were reduced to 20. The MRP and the Socialists also suffered heavy losses, while various moderate and independent groups, including the Radicals, scored gains. The DeGaullists however offered no candidate for the Presidency of the Council, with the result that centrist President Gaston Monneville, Negro Councillor from French Guiana, was re-elected on November 21. By December the Radicals were threatened with a split (barely averted by the appeals of the venerable Edouard Herriot) because of the desire of some of their members to join DeGaulle's RPF.

That the Queuille regime survived was due less to the enfeeblement of the Communists, who retained a mass following and still controlled most of organized labor, or to the loud outcries and timorous confusion of the DeGaullists, than to the reluctance of Socialists, MRF, and Radicals, bound together by common fear of their foes to Right and Left, to carry their quarrels to the point of dissolving permanently their uneasy union.

Such a regime might survive further parliamentary crises and ministerial reshuffles. It could not impose effective discipline on farmers and businessmen without driving most Radicals and independents into DeGaulle's camp. It could not impose effective discipline on labor without driving many Socialists into Communist arms. It could therefore rule, but could scarcely govern in any fashion adequate to the exigencies of the chronic economic and social crisis.

Diplomatic Dilemma. A France thus afflicted could scarcely hope to act with vigor, independence, or success in foreign affairs. Diplomatic weakness reflected military weakness, which in turn was not to be overcome so long as no funds were available for rearmament and the endless and hopeless war in French Indochina wasted the energies of 100,000 French troops and constituted a steady and futile drain on the finances of the Republic.

During 1948 the Quai d'Orsay found itself, willy-nilly, more and more the instrument of the diplomatic purposes of Washington and less and less able to oppose effectively those aspects of American policy which it deplored. In February Bidault joined Bevin and Marshall in a joint protest against the Communist coup in Czechoslovakia, thereby abandoning previous hope of acting as a neutral mediator in the "cold war."

DeGaulle in March called for American aid in assuring the military security, as well as the economic recovery, of Western Europe. In the Brussels Pact of March 17, France joined Britain and the Benelux countries in a fifty-year defensive alliance, inspired by fear of Soviet aggression. In April Bidault rejected Soviet protests against the Three-Power talks in London looking toward a West German Government. Schuman and Bidault nevertheless opposed Anglo-American plans for the Reich and finally accepted them with heavy heart. The London accords for Western Germany, defended without enthusiasm by Bidault, were approved by the Assembly, June 17, 297 to 289.

When this program led to the Soviet "blockade" of the Western sectors of Berlin, Schuman and Bidault sought cautiously to play a conciliatory role. Bidault's political eclipse and removal from the Quai d'Orsay were in large measure attributable to French fears regarding his German policy. Endorsement in August by the new Cabinet of the Brussels Conference project of a European Parliament effected no change in the international tension and apparently brought European Federation no closer to realization.

On September 30th the Politburo of the Communist Party, led by Thorez and Duclos, declared: "The French people will never make war against the Soviet Union. . . . The French people will not become the ally of Western Germany to make war against the country of socialism." When DeGaulle asserted early in October that Western defense plans must be based on France, not on Britain, the Cabinet asked delay in the strategic discussions in London. On November 4 it was reported from Frankfurt, without denial, that the U.S.A. had quietly armed and equipped three French divisions on a war footing.

By autumn almost all Frenchmen of all parties were registering alarm at Anglo-American plans to restore Western Germany. When the British and U.S. military governments on November 10 abruptly announced a policy of restoring the Ruhr industries to German ownership and control, Foreign Minister Schuman formally protested to London and Washington. Protracted friction followed at the London conference. DeGaulle declared that French security against Germany was more important than Marshall Plan aid.

Anxiety was not diminished by a \$300 million trade agreement signed on November 19 by France and Trizonia. French notes of November 20 informed Britain and the U.S.A. that Generals Clay and Robertson had no authority to pledge a restoration of the Ruhr to a German state and that Paris would never consent to such a program. Marshall's evasive reply of November 24 led the Assembly, by a vote of 377 to 181 on December 2, to ask the Cabinet to tell London and Washington that "the French people unanimously reject" the Clay-Robertson proposals.

This problem, like so many others, remained unsolved at the turn of the year, despite rumors of a "compromise" and of a Herriot mission to the U.S.A. Beggars cannot be choosers. Yet Anglo-American insistence on restoring the Reich as a bulwark against the U.S.S.R. could not safely be pressed to the point of making new political capital for Fascists and Communists in France.

The instability and fragility of the French regime were thus diplomatic assets, useful for bargaining purposes. But those who bargain from weakness rather than strength almost invariably lose more than they gain. The scope of prospective French losses—in the arena of diplomacy as in the domestic struggle to preserve democracy—was, perhaps happily, unclear at the opening of the year 1949.

See GERMANY, ITALY, GREAT BRITAIN, UNITED STATES, and U.S.S.R. —FREDERICK L. SCHUMAN

FRANKLIN INSTITUTE. The Franklin Institute of the State of Pennsylvania was founded in 1824 as a permanent memorial to Benjamin Franklin. It is dedicated to the promotion of the mechanic arts and the dissemination of scientific knowledge. Its technological library contains 130,000 volumes and 46,000 pamphlets, as well as a collection of patent literature. The Institute also maintains a scientific and technological museum containing thousands of action exhibits; the Fels Planetarium; an observatory open to the public; and a seismograph. About twenty lectures are given annually at the Institute by persons distinguished in science and industry. Branches of the Institute are the Bartol Research Foundation (research in pure science); the Biochemical Research Foundation (for the study of disease from the chemical viewpoint); and the Franklin Institute Laboratories for Research and Development (applied research in the physical sciences for industry and government).

An important activity is the Committee on Science and the Arts, formed of 61 members of the Institute, which reviews in detail many of the advances of science and technology. It recommends to the Board of Managers candidates for the annual awards of the Institute, which are formally presented at Medal Day exercises in October. *The Journal of the Franklin Institute* was established in 1826 and is the official organ of the Institute.

In 1948 the Franklin Medal, highest award of the Institute, was presented to Dr. Wendell Meredith Stanley, Professor and Head of the Depart-

ments of Biochemistry in Berkeley and in the Medical School in San Francisco, and Director of the Virus Laboratory of the University of California, for outstanding work in virus research, and to Dr. Theodor von Karman, Chairman of the Scientific Advisory Board of the U.S. Air Force, and Director of the Guggenheim Aeronautics Laboratory, for his contributions to the development of advanced aerodynamic conceptions.

Membership is about 5,500. The President, elected in 1947, is Richard T. Nalle; the Executive Vice President and Secretary, Henry Butler Allen. The Institute is located on the Benjamin Franklin Parkway at 20th Street, Philadelphia 3, Pa.

FREEMASONRY. Masonic recovery continued in the war-devastated countries, as did membership expansion in the United States and the British Commonwealth. Recent gains in China were threatened by the spread of the civil war, but there was hopeful activity in the new states of India and Pakistan. Unexpected progress was reported in two Central European countries, Hungary and Czechoslovakia. Masonic contacts in Latin America continued closer than before World War II.

Statistics. The year's net membership increase in the 49 United States grand lodges amounted to 181,925; there were 114 more lodges. Total: 15,362 lodges and 3,287,991 members. Of the latter, about 500,000 were also Scottish Rite Masons, about 575,000 were Royal Arch, 200,000 Royal and Select Masters, and 270,000 Knights Templar.

Canadian membership was over 200,000, Australasian about 250,000, and the Philippine 5,000. A very general estimate for Great Britain and Ireland was 1 million. Numbers in the rest of the world are relatively small, and few estimates of any kind were available.

Welfare. Charitable activities on a grand lodge or larger scale are of two general kinds: relief of indigent Masons and their families; and, welfare work for the community at large. The second kind increased greatly during the War and has continued to grow. The first, Masonic relief as such, is also of two distinct types: the care of the aged and orphans in institutions maintained by the Fraternity for this purpose; and, the support or partial support of the same needy persons by individual financial grants without institutional care. The increase of the latter has not so far diminished the former.

Costs of Masonic homes for children and the aged, like other costs, are rising. The situation is being met in some cases by increasing the regular per capita tax on members, but there are also plans to obtain voluntary contributions, as in Virginia and New York. The need for more funds to maintain and restore existing facilities has not prevented expansion, either in the United States or abroad.

The Royal Masonic Institution for Boys held its 150th anniversary festival June 9, 1948, and the 160th for Girls on May 12. Subscriptions for the year to these two charities plus the Royal Masonic Benevolent Institution (for the aged) totaled more than \$2 million. The Royal Masonic Hospital will not be taken over by the British Government, as was at first feared, under the National Health Service Act.

The European Relief Fund of the Masonic Service Association of the United States dispensed overseas aid from its 30 member grand lodges and others. Independent work was done by groups and grand lodges in the United States, Australasia, and especially Canada. Sweden has been giving special help to Norway and the Netherlands.

Veterans' welfare work continues, especially the large-scale hospital-visitation program of the Masonic Service Association and the personal guidance service of the New York grand lodge. Veterans are also forming their own groups to give rather than to receive charitable attention.

For the community as a whole, the largest single undertaking by Masons is the chain of Shriners Hospitals for Crippled Children, to which the 17th unit is about to be added in Los Angeles. The newest major undertaking is New York's Masonic Foundation for Medical Research and Human Welfare, whose first grant of \$200,000 was allocated Sept. 21, 1948, among 8 research institutions working on rheumatic fever and arthritis problems.

Youth. Like other welfare activities, the majority of youth programs are local and innumerable. Some national projects, more or less Masonically sponsored, may be mentioned. DeMolay growth has been phenomenal. 146 new chapters were formed in a year and 106 old ones revived; 1,27 total, including two new groups in Australia and four in the Philippines. 34,475 initiates brought active membership up to 143,206 when the Grand Council met in March, 1948. Boys need no longer leave the Order after the age of 18, but may receive "knighthood" in priorities now supplementing the chapters.

The Acacia Fraternity (Masons in colleges and universities) held a biennial meeting at North western, Chicago, in August. Three reactivated undergraduate chapters were reported, making 2 in all. Distinguished college students, with or without Masonic antecedents, continued to receive loan from the Knights Templar Educational Foundation.

Books. In addition to special periodicals and great many official proceedings and transactions there is a considerable Masonic literature. Some notable books have been published recently.

Famous Masons, by H. L. Haywood (Chicago Masonic History Company, 1944. 312p.). Short biographies of 12 Presidents and 100 others.

The Genesis of Freemasonry, by D. Knop and G. P. Jones (Manchester, [Eng.] University Press 1947. 334p.). Development from the 14th century to the middle of the 18th. The first really new and comprehensive work on this period since Gould in the 1880's.

The Temples in Jerusalem, by H. K. Eversu (Cincinnati, Masonic Memorial Chapel Assoc 1946). A factual account of the three famous temples, in their historical setting, with 38 illustrations.

Supplement to Mackey's Encyclopedia of Free Masonry, by H. L. Haywood (Chicago, Masonic Hist. Co., 1946. p. 1143-1570). The first revision since Clegg's in 1929, and the first substantial enlargement since 1873. —W. K. WALKER

FRENCH EQUATORIAL AFRICA. A French colonial territory in north central Africa consisting of four territories: Chad (capital Fort Lamy), Gabon (capital Libreville), Middle Congo (capital Brazzaville) and Ubangi Shari (capital Bangui), with a total area of 950,256 square miles. In 1946 the population comprised 7,808 Europeans and 4,120,000 Africans, composed of Bantu and Sudan Negroes with strong Hamitic and some Arabic intermixture. There were (1946) 169 official schools with 17,03 pupils, and 182 mission schools for 15,442 native pupils.

Production, etc. Tropical agriculture and grazing are the chief occupations. Principal products are cotton (1947 export: 21,064 metric tons), wool

coffee, oil, palm kernels (1947 export: 9,289 metric tons). An estimated 800,000 square miles of forest yields timber, rubber, wax, and copal gum. Mineral resources include diamonds, gold, copper, lead, and zinc. Ivory is an important export item.

In 1946 imports were valued at 1,549.5 million francs; exports at 1,321.7 million francs. Metropolitan France received 71.7 percent of all exports and supplied 53 percent. Chief imports are foodstuffs, spirits, coal, cement, and gasoline. The chief ports are Port Gentil, Libreville, and Pointe Noir, the latter being connected with Brazzaville on the Congo by a railway. There are 8,750 miles of road, part of which is suitable for heavy, all-year traffic.

Government. As reorganized by a decree of Oct. 16, 1946, French Equatorial Africa is administered as a unit by a governor general (at Brazzaville) who makes up a budget for the entire area. In 1946 the budget was balanced at 1,104,458,000 francs. He is assisted by a Government Council, a General Assembly and a Secretary General. Each of the four colonies has a Governor who administers local affairs with the assistance of a Privy Council. Eight delegates represent the colonies in the Council of the Republic, 6 in the National Assembly, and 7 in the Assembly of the French Union.

FRENCH GUIANA. An overseas department of Metropolitan France (since Jan. 1, 1947) on the northeastern coast of South America, comprising the colony of French Guiana and the Territory of Inini (30,301 sq. mi., pop. 1946, 5,024). Total area: 34,740 square miles; population (1946 census), 36,975, of whom 7,057 constitute government officials, military, and penal elements. Chief towns: Cayenne (capital, pop. 11,704), Mana, Oyapock, St. Laurent, Sinnamary. Principal crops: rice, maize, manioc, cacao, coffee, bananas, and sugarcane. The forests are rich in varied kinds of timber. Gold mining is the chief industry (19,749 oz. in 1946); silver, copper, iron, lead, mercury, and phosphates are also found. In 1946 imports totaled 255.7 million francs; exports 96.2 million francs.

The department is administered by a prefect. The Council General of 12 members is represented in the National Assembly, the Council of the Republic, and the Assembly of the French Union with one deputy for each. The Territory of Inini was administratively reunited with French Guiana on Jan. 1, 1947.

FRENCH INDIA. The five French settlements in India—Chandernagor (pop. 48,766); Karikal (pop. 64,332); Mahé (pop. 14,764); Pondichéry (pop. 211,468); and Yanam (pop. 6,820). Area: 196 square miles. Population (1946): 346,150. Capital: Pondichéry, 53,101 inhabitants. Education (1946): 67 primary schools and four colleges with 13,179 students. The chief crops are rice, manioc, and groundnuts. There are cotton and jute mills at Pondichéry and Chandernagor. Trade at the ports of Pondichéry and Karikal (1946): imports, 80,343,000 francs; exports, 7,748,000 francs. Shipping (1946): 41 vessels entered and cleared.

Finance (1947): local revenue 6,981,000 rupees; expenditure 6,581,000 rupees. The administration is headed by the Commissioner of the Republic, assisted by a Government Council of 5 members. There is also an elected Representative Assembly. Commissioner of the Republic: Charles Baron.

FRENCH INDOCHINA. Situated in southeastern Asia, south of China and east of Siam, French Indochina comprises Vietnam (uniting Tonkin, Annam and Cochinchina), Cambodia, and Laos. Total area:

285,000 square miles. Total population of Vietnam which is inhabited mainly by Annamese: 21 million. Chief Vietnamese cities: Hanoi (capital) 151,500, Saigon-Cholon (port and commercial center) 1,174,687. Population of Cambodia: 3 million (capital, Phnom Penh). Population of Laos: one million (capital, Vientiane). Chinese population of Indochina: 850,000. French population (apart from a French expeditionary force of over 100,000): some 40,000.

Education and Religion. Instruction is given in lay and religious schools, both public and private. In all, 720,000 students were attending French sponsored schools in 1944, including elementary, secondary, vocational, and technical institutions and one university (Hanoi). One of the first acts of the Democratic Republic of Vietnam in September, 1945, was the inauguration of a Vietnam literacy campaign to teach *quoc-ngu* (romanized Annamese). In September, 1948, it claimed 7 million people had been taught to read and write. Principal languages are Annamese, Cambodian, and French. Buddhism is the chief religion, with some 2 million Catholics, about one million Cao daists (adherents of an eclectic religious sect), and a smaller number who belong to the Hoa Hao sect.

Production. Chiefly occupying the coastal plains, the population is predominantly agricultural. Rice is the principal crop, before the war claiming 83 percent of the cultivated land. Because of continuing war with the Vietnamese Republicans in which the French have lost control of the greater part of Vietnam, holding just the big cities and some other fortified places, output has sunk far below peacetime levels. In 1947 the rice crop was 3,965,000 metric tons (61.5 percent of prewar production), and maize 54,000 metric tons (10 percent of prewar). In Cambodia and Cochinchina 39,000 metric tons of rubber were produced, 57 percent of the 1939 figure. Other crops include potatoes, beans, sugar, tobacco, tea, and manioc. Fishing and forestry are important.

Mineral resources include anthracite coal (250,000 metric tons in 1947), tin, zinc, iron, tungsten, phosphates, manganese, lead, and bauxite. Manufacturing has been limited to processing and light industries such as rice mills, distilleries, sugar refineries, and factories for cotton goods, cement, soap, and tobacco. In 1947 some 40,000 metric tons of cement were produced.

In Vietnamese Republican territory war plants are also manufacturing war material such as bazookas, antitank grenades, and mines. The Republic claims to have increased agricultural production in the areas under its control. It is directing its efforts toward economic autonomy and the blockading of French-controlled cities.

Foreign Trade. Total imports into French controlled areas in 1947 were worth 973 million piastres, and exports 473 million, leaving an adverse trade balance of 500 million piastres. From France came 57 percent of the imports and France took 45.5 percent of the exports. The United States was second in French Indochina's trade, in January-June, 1947, taking 7.9 percent of Indochina's exports and providing 19.3 percent of its imports. Principal exports were rice, rubber, coal, maize; principal imports, mineral oils, metals and metal products, textiles, chemical products.

Finance. In addition to separate budgets maintained by each of the states there is a common budget for the French Indochinese Federation. The federal budget for 1948 was fixed at 975,745 piastres. In December, 1948, the official exchange rate for the piastre was \$1 = 12.60 piastres; the ef-

fective free rate, \$1 = 18.65 piastres. On Aug. 26, 1948, the French National Assembly voted to withdraw from the Bank of Indochina the right to issue banknotes and vested it in a government-appointed Currency Board. (The Vietnamese Republican Government, which has remained outside all federal arrangements, issues its own banknotes.) The cost of living index rose steadily in French-controlled areas. For the working class in October, 1948, it was (1939 = 100) 3,614 in Saigon, 12,812 in Hanoi, and 3,032 in Phnom Penh.

Communications. Of the 1,873 miles of railroad in 1941 only 714 were open in 1947. Railroad traffic was almost at a standstill because of the fighting. There were 20,242 miles of highway in 1942 but only 16,150 were open in 1947. As even armed convoys are not safe from attack, an increasing proportion of travel is done by air. In 1947 the monthly average of merchant shipping entering the ports of Saigon, Campha, and Haiphong was 126,000 tons and 136,000 tons were cleared each month, as compared with 617,000 and 584,000 tons respectively in 1938.

Government. France's plan, announced early in 1945, to create a centralized federation of five states in Indochina with strictly limited self-government has been modified by events. The Annamese people who live in three of the states (Tonkin, Annam, and Cochinchina) demanded a single, virtually independent government of Vietnam. On March 6, 1946, France signed an agreement with the Democratic Republic of Vietnam (which had declared its independence on Sept. 2, 1945) headed by President Ho Chi Minh, recognizing the union of Tonkin and Annam in a free state of Vietnam within the Indochinese Federation and the French Union. French opposition to including Cochinchina within Vietnam was one of the reasons for the breakdown of negotiations with the Ho government. Since December, 1946, they have been at war, with the Republic controlling the greater part of South Vietnam (Cochinchina), Central Vietnam (Annam), and North Vietnam (Tonkin). In 1948 the French recognized the unity of Vietnam, not under Ho but under a pro-French "Provisional Central Government of Vietnam." Premier: Gen. Nguyen Van Xuan.

Although there are certain federal arrangements linking together the different states and there is a High Commissioner for Indochina (Léon Pignon, appointed October, 1948), Cambodia and Laos also have more direct relations with France. They were recognized as associated states within the French Union in December, 1947. France controls their armies and foreign affairs, as well as their economic life, and they are represented in the consultative Assembly of the French Union. Both constitutional monarchies, Cambodia is ruled by Norodom Sihanouk (Premier: Penn Nouth); Laos by Sisavong Vong (Premier: Souvannarath).

Events, 1948. The war in Vietnam continued the central problem in Indochina with Ho Chi Minh, a Soviet-trained nationalist, leading the majority of the Vietnamese in resistance to the French. Toward the end of 1947 the French Government decided to stop trying to reach an agreement with Ho and began negotiations with Bao Dai, ex-emperor of Annam who had abdicated to make way for the Republic. Like Ho, Bao Dai insisted on unity and independence for Vietnam.

A Provisional Central Government which looked to Bao Dai for leadership was established on May 20 by pro-French Vietnamese elements and Xuan became premier. On June 6 Xuan and Emile Bollaert (then French High Commissioner) signed

an agreement recognizing the unity and independence of Vietnam as an associated state within the French Union. But in later negotiations Bao Dai and the French could not agree on what constituted independence. Bao Dai refused to return to French Indochina. The Xuan government remained in existence but without popular support and, contrary to French expectations, did not succeed in splitting the resistance which remained solidly behind Ho Chi Minh.—ELLEN HAMMER.

FRENCH INSTITUTE (Institut de France). Founded in 1795 and comprising five autonomous academies: Académie Française; Inscriptions et Belles-Lettres; Science; Beaux-Arts; and Sciences Morales et Politiques. Library: 800,000 volumes. Membership: Limited to 294 Members, 44 Foreign Associates, and 298 Corresponding Members. Prizes are awarded annually by the various Academies, notably the Prix de Rome (Beaux-Arts). Governing Board for 1947-48: Clovis Brunel (Acad. Inscriptions), Georges Lecomte (Acad. Française), Henri Villat (Acad. Sciences), Emile Aubry (Acad. Beaux-Arts), Edouard Payen (Acad. Sciences Morales). Secretary, Maurice J. A. Merlin. Headquarters: Palais de l'Institut, 23 Quai Conti, Paris VI, France.

The Institute publishes *Journals des Savants*, *Comptes rendus des Sciences* (Annual), *Mémoires et publications*, and a historical series.

FRENCH LITERATURE. The year 1948 was a period of political turmoil and social uncertainty in France; to many observers the country seemed to be on the brink of civil war. Yet these disturbed conditions were not reflected in literature, which continued to be active and of a high artistic quality. The two European countries in which the political life is most tense and the revolutionary ferment most conspicuous, France and Italy, also are those in which letters, arts, the cinema, and philosophical speculation flourish most brilliantly.

If the average level of literary production was high in France, however, the number of unchallenged masterpieces was, as is natural, small and no new movement emerged to succeed Existentialism or Surrealism. The average life of a literary movement is ten or fifteen years at the least, and the Existentialist writers are as yet hardly over forty. Their prestige is still great, though they are far from having a monopoly on talent.

General Characteristics and Literary Events. A reaction has set in against the literature of World War II and of the Resistance. In politics, the events of 1948 pointed to a failure of the men of the Resistance to renovate the antiquated fabric of French economy and administration and to replace the traditional parties. In literature, men like Aragon, Cassou, and even Eluard, whose poetry was recited by large numbers during the war, lost the ear of the public.

On the other hand, Giono, Jouhandeau, Montherlant, suspected and even silenced for some time after the liberation, have sprung back into vogue and the last two have won acclaim. The old *Revue des Deux Mondes* has reappeared under a slightly different name, but has not gained youth and vigor from its enforced silence. The *Mercur de France*, *Etudes* (a Catholic monthly of broad, non-partisan inspiration), *La Nef*, and the *Revue de Paris* are the finest reviews of general interest; *Les Temps Modernes* is the most original one. New series of *Cahiers*, devoted to Péguy, Rostand, Mallarmé, are often launched. Literary prizes continue to plague Parisian literary life and attract

slight attention from being too numerous and too widely advertised.

The outstanding features of 1948 were: (1) The decline in the vogue of American novels in translation. The French have apparently assimilated all that Faulkner and Dos Passos could teach them in the way of technique and dynamic psychology. They have wearied of the indiscriminate multiplication of translations from third-rate American writers. (2) The decline in the fashion for brutal and immoral fiction: represented by Henry Miller and, in French, by Boris Vian and Raymond Guérin. There is a limit to coarseness which had apparently been reached. (3) The celebration of the revolution of 1848, which, though it failed as a revolution, influenced the whole course of subsequent French history by dividing workers from the bourgeoisie by a ditch of blood. This revolution had impressed literature deeply: Proudhon, Flaubert, Lamartine, Michelet, Hugo, Renan, Baudelaire, Leconte de Lisle. Its influence was discussed in many a volume in 1948. (4) The writers who died this year included a powerful novelist, Bernanos; an original essayist, Suarès; a fine poet, Fargue; the Swiss Ramuz; Rosny *jeune*; Sertillanges; and Tristan Bernard.

Literary History and Criticism. The French seldom cease reinterpreting their past masterpieces and emphasizing the living links between their long literary tradition and the present. Some of the most sustained attention of their critics and writers is directed toward Montaigne, Pascal, Racine, Rousseau. Lately, a return to Corneille seems to have set in; Malraux and Sartre have expressed their Cornelian sympathies, and critics like Nadal and Bénichou have (in 1948) published studies on love in Corneille and on the dynamic heroism of his conception of virtue.

Rousseau and Sade fascinate the psychologists of today who hail these 18th century novelists as pioneers in the discovery of the abysses in man's subconscious and erotic life. Chateaubriand aroused much interest on the occasion of the centenary of his death in 1848; his *Mémoires d'Outre-Tombe* were published in the first complete edition by Levaillant. Balzac received much retrospective light from a bulky and detailed study of his political and social thought by Bernard Guyon. Other scholars have identified the true prototype of Flaubert's *Madame Bovary* as the wife of the sculptor Pradier.

An excellent edition of Baudelaire's *Letters* was launched by Crépet, which will for the first time enable readers to follow the poet's tormented life closely and accurately. Mallarmé fascinates lovers of poetry more than any other poet; his slim hundred or so pages of impeccable and mysterious verse will soon have inspired a hundred volumes of comment. Jacques Schérer, Emilie Noulet, Antoine Orliac, and the Australian Gardner Davies have contributed the most valuable Mallarmé items this year.

The Drama. For reasons apparently inexplicable, the drama lately produced has been the most brilliant province of French letters. Yet there was neither the presence of a stable public nor the atmosphere of prosperity and serenity which are often taken to constitute the conditions for a great dramatic age. The cinema and sports lost little of their appeal, even though the quality of the former was frequently questioned. But the public goes to the theaters where plays of literary merit are given even more than to the conventional stages on which theater is divorced from literature. The Comédie Française seemed to have triumphed over her

crisis of three years ago and again was attracting good actors and good plays.

Jean-Louis Barrault is the most superb actor and stage manager in Paris; Hébertot and Jouvet have scored continued success. Great writers in France seem to be proud to write for the stage and strike responsive echoes in a wide and understanding audience.

One of the most famous French writers, Mauriac, failed to arouse enthusiasm with his *Passage du Malin*, a bitter and venomous play which does not appear possible or likely. Montherlant was highly praised for his *Maitre de Santiago*, a fine character-study in which the speeches are perhaps overdeveloped as a means of revealing character; the severity of that almost Jansenist drama is in keeping with Montherlant's latest evolution as a moralist of inner heroism. *Montserrat* by Robles presented a forcible and tense moral dilemma such as often faced the Resistance leaders during the war.

Three plays, in a lighter vein, skilfully composed, blending drama and humor, and dealing with the old and ever-new subject of love and infidelity, have entertained Parisian audiences; all three make excellent reading also and probably will lose little in translation. They are *l'Archipel Lenoir* by Salacrou, *Lucienne et le Boucher*, a tragic farce by Marcel Aymé, and the delightful and fanciful comedy *Nous Irons à Valparaiso* by Marcel Achard.

Two dramas stand out above the current production as important literary events. One is *Partage de Midi*, which Claudel composed and published for only 150 readers over forty years ago. The aged poet, now in his eightieth year, has allowed the play to be reprinted and staged. It is a superb lyrical tragedy of devastating passion, meeting with death and frustration, and ending in an exalted hymn to God. No greater delineation of love has perhaps been achieved since Wagner's *Tristan and Isolde*.

The other play to win almost unanimous acclaim and popular success is Sartre's *Les Mains Sales*. It courageously treats a political theme, that of Communist fanatical obedience vs. a modern Hamlet tormented by the scruples of his conscience, or of end and means. The author remains objective throughout and, although he and his doctrine of Existentialism have been branded as enemy No. 1 by the Communists, he raises the conflict to the lofty plane of a moral and psychological debate. The play is long, somewhat too voluntary and geometric in its structure, but represents a masterly attempt to bring the drama abreast with the gravest preoccupations of our time. Part of the drama was published in the United States, and Existentialism was thoroughly discussed and weighed in the first number of the *Yale French Studies*, in the Spring of 1948.

The Novel. Masterpieces in fiction are rare in any given year, or in any given decade. There were few striking new novels in France in 1948, but many of good workmanship. *La Fille Pauvre* by Van der Meersch is, along traditional lines, a moving story of a factory girl, crushed by adverse fate but always firm and delineated with sympathy, unlike the heroines of Naturalist fiction. *L'Accident* by Armand Hoog is a clever utilization of psychoanalysis for fictional purposes. *Les Forêts de la Nuit* by Jean Louis Curtis presents an objective picture of occupied France, drawn with simplicity and art. *Planète sans Visa* by Jean Malaquais is a bulky network of several plots, not all convincing, reviving the years of German control over the South of France.

In several recent novels, a return to the solid,

prosaic fiction of the realistic type, grasping details firmly and setting men and women in their environment, is conspicuous. But the most original work of fiction is that of the unconventional writer with a powerful temperament that distorts and recreates reality, steeped in tragedy or in poetry. Since the recent disappearance of Bernanos, Jouhandeau is the most powerful of the tragic novelists. His *Essai sur Moi-même* affords a valuable insight into his egotistic and tormented self. Pierre-Jean Jouve, well-known as a poet obsessed with the Christian sense of tragedy, has aroused enthusiasm, in France and England, among the happy few, with his *Aventure de Catherine Crachat*, a picture of hatred, cruelty and pitiful misfortune in a woman. Neither Sartre nor Camus has published any new fiction this year. Maurice Sachs, in his posthumous *Chronique Joyeuse et Scandaleuse*, failed to repeat the success of his *Sabbat* of 1947.

Among the novelists of earlier generations, Proust is again attracting much interest and the complete lack of any disciples or imitation of an imitable writer adds to his stature as one of the giants of French fiction. Mauriac, Romans, and Duhamel seem to have nothing valuable to add to their former writing of fiction. Maurois, who never really counted as a novelist, has apparently understood that his talent lay in the skilful retelling of history or in the journalistic writing of light moral essays. Saint-Exupéry's posthumous *Citadelle* is a lengthy and rambling series of lyrical reflections on man, his place, and his duty in this world. It should probably not have been published in its bulky entirety. Giono returned to literary life with an entertaining picaresque story, *Roi sans Divertissement*, and a more didactic tale, *Noé*. Marcel Aymé, in *Uranus*, is one of the very few writers today who maintain the claims of Rabelaisian humor in a world haunted by fear and by tragedy.

The Essay and Conclusions. The originality of French literature at present lies less in its artistic achievement than in its lively fermentation. Few first-rate poems have appeared; fiction eschews the conventional, smooth path, and repudiates Flaubert as a dangerous master whose example would drive the novel into too neat and well-made a pattern. Writers seem no longer to aim at eternal values; they write for their own time, as Sartre asked them to do in a noteworthy article. In so doing, they turn literature into a vehicle for all the intense and immediate preoccupations of their contemporaries. French writers are constantly being called upon to express their views on politics, on international problems, on social and economic issues, and they do so with a lofty conception of their duties to the public. Their prestige as men of letters is enhanced by their active participation in the problems of their age. More so than in America and Great Britain, they are the "directors of conscience" of the young.

Hence the most significant part of French literary production is that which appears in reviews and in volumes of essays, difficult to classify under any given label, but translating into literature, that is to say into artistic and dynamic expression, the ideas and the beliefs, or quest for beliefs, of our contemporaries. Sartre founded with David Rousset a political group, the Democratic Revolutionary Rally (R.D.R. in French initials) which is anti-Communist and anti-Capitalist: its aims were interestingly clarified in *les Temps Modernes*, No. 36, September, 1948. It may act as a ferment in renovating the Left in France and in achieving a synthesis between revolutionary views (many Frenchmen are convinced of the need for some kind of

revolution) and Socialism which has become timid and lifeless lately.

Sartre also published two remarkable collections of essays, *Situations I* and *II* which establish him as the most important essayist of his generation. Malraux, who has sided with an opposite party, that of De Gaulle, has written on politics and, even more, on art: his two-volume *Psychologie de l'Art* is rich in pregnant though enigmatic statements which alternately throw light, and obscurity, on the problem of modern art and of a renovation of humanism.

Simone de Beauvoir is undoubtedly the leading woman of letters today. In *Pour une Morale de l'Ambiguïté*, she attempted to formulate an Existentialist ethic. In *La Femme et les Mythes*, she wrote a subtle and bellicose defense of feminism, characterized by an immense store of anthropological and sociological information and by an uncanny insight into the view of woman held by man: the latter is vigorously taken to task. Finally, in a volume *L'Amérique au jour le jour*, she related her American tour with more liveliness in perceiving the concrete, more sympathy, and more straightforward criticism of America than are usually displayed by foreign visitors.

Among the Catholic essayists of note, Gabriel Marcel was much praised, reread, and discussed on the occasion of his receiving the Grand Prix de Littérature of the French Academy; and Michel Carrouges published a keen analysis of the Nietzschean disease of our age, the attempt at self-deification on the part of man: *La Morale du Surhomme*. Other influential essayists are Maurice Blanchot, haunted by the problems of language and literary expression; Georges Bataille, whose paradoxical *Haine de la Poésie* challenged the poetic idols of today; Jean Paulhan, always attracted by subtlety and occasionally misled by it, who revealed a new poetic "genius," Malcolm de Chazal, from the Mauritius island. Henri Peyre's *Les Générations Littéraires*, which proposed a fresh view of literary history; Nelly Corneau's *Physiologie du Roman*, Burand's *Les Masques* attracted some attention.

On the whole, the French literary output of 1948, in spite of an acute slump in the book publishing business which had overexpanded since the war, was considerable. If the works which appeared during this year of crisis lacked serenity and finish, they were varied, challenging, alive. France seems destined to live in a state of crisis, political and literary, and even to enjoy it. Crisis is doubtless preferable to stagnation. The eyes of cultured groups in Europe including Great Britain, in the Near East, in South and even in North America, remain fascinated by what, for better or for worse, in revolt against current morality and in search of a new ethics, in rebellion against traditions and in the formulation of new philosophical and esthetic truths, is being proposed on the Banks of the Seine.

—HENRI PEYRE

FRENCH OCEANIA. A French colonial possession in the South Pacific, about midway between the Panama Canal and Australia. The colony consists of some 110 islands falling into the following major groups: Society; Marquesas (480 sq. mi., pop. 2,988); Gambier, Tuamotu (pop. 5,127); Lee-ward (Iles sous le Vent, pop. 12,445); Austral; Rapa Islands. Clipperton, an island 670 miles southwest of Mexico has been included in French Oceania. Tahiti (600 sq. mi., pop. 24,820 in 1946) of the Society group is the main island. Total area: 1,520 square miles. Total population (1946 cen-

sus): 55,734, of whom 6,885 were Chinese. Capital: Papeete (on Tahiti), 12,428 inhabitants in 1946. French is the official language.

Production and Trade. The production and export of copra and phosphate form the basis of the economy. Vanilla beans and mother of pearl are also important. Coffee, tobacco, tropical fruits and vegetables, rice, and sugarcane are grown for local consumption. Foreign trade (1947): imports valued at 368,837,000 Pacific francs; exports at 431,598,000 Pacific francs (Pacific franc equals U.S. \$0.020 since 1946). A total of 205,221 quintals of copra valued at 178,049,000 Pacific francs and 2,083,164 quintals of phosphates valued at 120,896,000 were exported in 1947. Chief imports are consumer goods, cotton cloth, machinery, petroleum products, and timber. The United States supplied 44 percent of all imports in 1947.

Government. The colony is administered by a governor assisted by a Cabinet, a Privy Council, and a Representative Assembly (elected for 5-year term). Representation in the National Assembly, the Council of the Republic, and the Assembly of the French Union is made by one deputy to each. Governor: Pierre Maestracci.

FRENCH SOMALILAND. A French colony in northwest Africa, near the southern end of the Red Sea. Area: 9,071 square miles. Population (1946 census): 44,800, of whom 1,500 were Europeans. Capital, Jibuti (10,421 inhabitants). The production of salt is the only industry. Gypsum, mica, amethyst, sulfur, and petroleum are said to exist. Trade (1946): imports 216,900,000 CFA francs; exports 38,800,000 CFA francs (CFA franc = 1.70 francs). The principal imports are cotton yarns and cotton goods, cattle, coal, and sugar. Exports in 1946 included coffee, hides, and salt (25,730 metric tons). French Somaliland is administered by a governor, assisted by an administrative council. The colony is represented, in the National Assembly, the Council of the Republic, and the Assembly of the French Union, by one deputy in each. Governor: Paul Sirriex.

FRENCH UNION. According to the French Constitution passed on Sept. 29, 1946, and confirmed by referendum on Oct. 13, 1946, "the French Union consists, on the one hand, of the French Republic which comprises Metropolitan France, the overseas departments and territories, and on the other hand, of the associated territories and states" (Art. 60). The central organs are the Presidency (occupied by the President of the French Republic), the High Council (composed—under the presidency of the President of the Union—of a delegation of the French government and of the representatives of the associated states, accredited to the President of the Union. Its function is to assist the government in the general management of the Union), and the Assembly (half the members represent Metropolitan France and half the members represent the overseas departments and territories and the associated states).

FRENCH WEST AFRICA. A federation of 7 French overseas territories, which are listed in the accompanying table.

Population. Out of the total population of 15,943,000 (1946), 32,044 were Europeans (21,116 French). The natives are mainly Sudanese Negroes, but with strong Hamitic influences in many areas of the Sudan and in the Sahara. These elements introduced the Moslem faith professed by many of the inhabitants in the drier parts of French West

Africa. Approximately half the population is Moslem. The southern zone, lying in the belt of tropical rain forests, is largely pagan except where Christian missions have made converts.

<i>Territory</i>	<i>Sq. Mi.</i>	<i>Pop. (1946)</i>	<i>Capital</i>
Dahomey	43,232	1,458,000	Porto-Novo
French Guinea	96,886	2,125,000	Conakry
French Sudan	590,966	3,797,000	Bamako
Ivory Coast	184,174	4,056,000	Abidjan
Mauritania	323,310	497,000	.....^b
Niger	499,410	2,168,000	Niamey
Senegal	77,790 ^a	1,895,000	St. Louis
French West Africa	1,815,768	15,943,000	Dakar

^a Includes Dakar and dependencies, reunited with Senegal on July 1, 1946. It is administered by a delegate of the governor of Senegal and called the "Delegation of Dakar." ^b The lieutenant governor of Mauritania resides in St. Louis, Senegal.

Education. In 1946 there were 832 elementary classes with a total of 78,547 students enrolled, 23 secondary, technical, and Moslem schools with 1,552 students, and a number of private schools with a total of 24,213 students. At Dakar there is a normal school for training in the various professions, and an institute for the study of African culture and languages.

Production. Agriculture, lumber production, and stock raising are the principal economic activities, and engage about 96 percent of the population. The peanut is the most important agricultural product (365,000 tons in 1946), followed by coffee, cocoa, palm kernels, peanut oil, and other oil seeds. Minerals include iron ore, manganese, diamonds, and gold; however, they have not been commercially exploited. Except for 20 oil mills producing approximately 40,000 tons of peanut oil yearly, industry and manufacture are on a small scale and mainly for local consumption. Livestock (1945): 171,309 camels, 4,533,957 cattle, 459,331 asses, 11,140,000 sheep and goats, 179,150 horses, and 145,566 pigs.

Foreign Trade. In 1946 imports were valued at 5,990,770,000 francs—the main items were textiles, fuel oil, mechanical implements, foodstuffs, and beverages. The value of exports in 1946 totaled 4,120,592,000 francs—the important commodities were peanuts, peanut oil, coffee, cocoa, palm kernels, gum, dried bananas, and cotton.

Transportation. In 1945 there were 2,705 miles of railway in operation, 11,532 miles of telephone line, and 22,179 miles of telegraph line. A considerable part of the middle Niger is navigable for shallow draft vessels. During 1946 a total of 5,745 vessels entered and cleared the ports of French West Africa. Dakar, Conakry, Abidjan-Port Bouet, and Cotonu are the chief ports.

Finance. The general budget for 1947 was estimated to balance at 5,117,234,000 francs, and the estimated local budgets at 3,711,214,000 francs.

Government. French West Africa consists of 8 territories loosely organized for administrative and customs purposes. Its form of government had not been finally established to conform with the provisions of the new French Constitution of October 1946. The executive head, the Governor General and High Commissioner, who resides at Dakar, is assisted by a Government Council and a Grand Council. Each of the territories is under a governor, assisted by a Privy Council and a General Council. French West Africa is represented in the French legislature by 12 delegates to the National Assembly and 19 delegates to the Council of the Republic. High Commissioner of the French Republic, Governor General of French West Africa: Paul Béchard (appointed February, 1948).

GALAPAGOS ISLANDS. A territory of Ecuador consisting of a group of 13 large and hundreds of small volcanic islands in the Pacific Ocean about 600 miles west from Ecuador. Officially called Archipiélago de Colón. Chief islands: San Cristobal, Santa Maria, Santa Cruz, San Salvador, and Isabella. Total area: 3,028 square miles. Population: 2,156 (1941). During World War II, the United States maintained air bases on some of the islands; efforts to purchase or lease the islands failed, however, and their possession reverted to Ecuador on July 1, 1946.

GAMBIA. A British Crown colony and protectorate in West Africa, extending on both banks of the Gambia River for a distance of some 250 miles from its mouth. Total area, 4,101 square miles; area of colony (comprising Bathurst and vicinity), 96 square miles; area of protectorate, 4,005 square miles. Population of the colony (1944 census), 21,152; protectorate (1946 census), 223,114. Capital: Bathurst, on the Island of St. Mary. The population is predominantly Mohammedan, but there are several pagan enclaves in the protectorate.

Production and Trade. Chief export products (1946): groundnuts (valued at £595,859), palm kernels (valued at £18,587), beeswax, hides, and skins. A variety of crops are produced for domestic consumption. Clothing, agricultural and domestic implements, foodstuffs, and medicines are imported. Imports (1946): £949,093; exports £696,292.

Government. Finance (1946 est.): revenue £616,328; expenditure £545,854; public debt £38,760. With the exception of the Island of St. Mary and the contiguous district of Kombo St. Mary, Gambia is administered as a protectorate. A governor, assisted by an Executive Council and a Legislative Council, heads the administration. In Bathurst, a town council was established in 1946 and a similar self-governing body, the Kombo Rural Authority, was created on Jan. 1, 1947. Governor: Sir Andrew B. Wright (appointed Nov. 21, 1946).

GENERAL ACCOUNTING OFFICE. An agency of the U.S. Government under the control and direction of the Comptroller General of the United States. The Office is a part of the legislative branch and independent of the executive departments. Comptroller General of the United States, Lindsay C. Warren; Assistant Comptroller General, Frank L. Yates.

The basic tasks assigned to the Office by Congress are the independent audit of the financial transactions of the Federal Government including those of Government corporations; the prescribing of forms, systems, and procedures for administrative appropriation and fund accounting including the prescribing or approving of systems for inventory accounting in independent agencies; the settlement of claims by or against the United States; the rendition of legal decisions pertaining to governmental fiscal matters; the conduct of investigations relating to the receipt, disbursement, and application of public funds; the maintenance of accounting controls in connection with appropriation and fund accounts; and other related and necessary functions.

GENERAL EDUCATION BOARD. An institution founded in 1902 and incorporated by Act of Congress in 1903, with the stated object of promoting education within the United States of America without distinction of race, sex, or creed. At the present time the work of the Board is confined to the southern states. The Board is empowered to spend the

income and the principal of its funds. From the time of its establishment until Dec. 31, 1947, its expenditures totaled \$282,166,599. As of Dec. 31, 1947, its assets amounted to \$12,667,903 (not including a pledge receivable of \$7,500,000 from The Rockefeller Foundation).

In 1948 the General Education Board's program included aid toward the following general purposes: general improvement of teaching and facilities; promotion of graduate education and research; training of youth in the fields of business and technology and subjects tending to contribute to the economic and industrial development of the South; improvement of health and community life, and improvement of public education.

Grants illustrative of such purposes are: to five Negro institutions comprising Atlanta University Center, for the employment of additional faculty members and/or increases in faculty salaries, a total of \$150,000; to St. Augustine's College, Raleigh, N.C., for construction and equipment of a science building, \$140,000; to Vanderbilt University, Nashville, Tenn., for strengthening the social sciences, primarily through additional staff, library materials, and support for research, \$130,000; to the University of Florida, Gainesville, toward the development of research on the graduate level, \$30,000; to the Regional Council for Education, toward study and preparation of a program of cooperation among the states in the development and support of graduate, professional, and technical education on a regional basis, \$30,000; to the National Planning Association, Washington, D.C., toward the research program of the Committee of the South (concerned with the economic development of the South), \$25,000; to the University of Georgia, Athens, toward support of a program for regional coordination of education in agricultural engineering and vocational agriculture to be undertaken by the Southern Association of Agricultural Engineers and Vocational Agricultural Educators, sponsored by the University, \$30,000; to the Alabama Polytechnic Institute, Auburn, toward the cost of equipment for the Human Nutrition Research Laboratory, \$10,868; to Tuskegee Institute, Alabama, toward support of the rural life program, \$70,000; and to the Southern Association of Colleges and Secondary Schools toward support of a study in elementary education, \$30,000.

Officers: President until June 30, 1948 (retired), Raymond B. Fosdick; President from July 1, Chester I. Barnard; Vice President and Director, Robert D. Calkins; Secretary, William W. Brierley; Treasurer, Edward Robinson. Offices: 49 West 49th St., New York 20, N.Y.

GEOGRAPHIC NAMES. Board on. Successor to the United States Board on Geographical Names. The Secretary of Interior and the Board conjointly standardize geographic nomenclature for the Federal Government. Executive Secretary: Meredith F. Burrill.

The Board on Geographic Names issued during the calendar year 1948 a total of 2,161 decisions on individual names and standardized more by routine procedures without formal individual decisions. Directions for treatment of geographic names in nine separate countries were published, and many policy and procedure rulings made that were reflected in names and other published material.

Work on Antarctic names was continued, with about 250 names being approved in addition to those previously published. There was close cooperation with American expeditions to Antarctica

during the year. Working arrangements were completed with the Canadian Board on Geographical Names for exchange of decisions and other information, to the advantage of both Boards.

GEOLOGICAL SURVEY. Modern civilization is dependent on the use of large quantities of three natural resources: metals and minerals for machines; fuels for power and heat; and water for power, irrigation, industry, and the home. These resources come from the earth, and their most efficient discovery and development require a knowledge of geology. In the fiscal year 1948 the Geological Survey—as it has since its organization in 1879—remained the hub of Federal activities relating to the discovery, evaluation, development, and conservation of the nation's mineral and water resources. During the year considerations of national security kept the activities of the Geological Survey focused even more intently than before on problems relating to the discovery and appraisal of mineral raw materials and this work has expanded to the limit of available facilities.

Organization. Beginning Jan. 1, 1949, the units within the Geological Survey have been renamed to conform to the subdivisions of other agencies of the Government. The term "Branch," used for many years for the four major units of the Survey, has been replaced by "Division" and the smaller units, formerly called "Sections," are now termed "Branches." Exceptions are that the former Atlantic, Central, Rocky Mountain, and Pacific "Divisions" of the Topographic "Branch" become "Regions" of the Topographic "Division."

Funds. During the fiscal year 1948 there was available for expenditure by the Geological Survey a total of \$22,410,915. Of this amount \$10,241,443 was appropriated directly to the Survey and \$12,169,472 was made available by other Federal agencies, and by States and their political subdivisions. In addition, \$10,995 was allotted from the contingent fund of the Department of the Interior for miscellaneous expenses.

Geologic Division. Progress has been maintained in all important directions to determine the ultimate capacity of this country to produce the mineral raw materials required by industry, in the completion of the geological map of the United States, and in the correlative programs of general research. Geological maps are an essential tool in many fields, not only in the search for an appraisal of mineral and water resources but also in providing information for mineral and mining technology; in land classification; in soil conservation and soil sciences; in the activities of the national parks; in dam, highway, and other kinds of heavy construction; and in military planning.

Mineral Deposits. Early in the fiscal year 1948 the consolidation of the sections of Metalliferous Deposits and Non-metalliferous Deposits resulted in an expanded program of research, geologic mapping, and explorations of mineral deposits. Seventy-one projects were active in 37 States. Because of the critical need for base metals, 24 of the projects dealt with copper, lead, and zinc, and 15 with deposits of iron and ferro-alloy minerals, such as tungsten, chromite, and manganese. Investigations were also continued on mercury, alunite, bentonite, fluorspar, magnesite, potash, talc, and granite. Five exploratory drilling projects—one each in Arizona, Colorado, Idaho, South Dakota, and New York—were undertaken, 3 of which were completed during the year.

Geochemical prospecting for mineral deposits by chemical studies of soil, vegetation, and water

was carried on by 6 projects and 10 minor field studies. Greatest emphasis was placed on the development of quick analytical tests that may be used in the field. Greenhouse experiments on plants growing in soils containing known concentrations of copper, lead, and zinc were in progress during the year. Cooperative work in 10 States was continued and 6 projects were under way in the Missouri River Basin. New publications for the year embraced a wide range of subjects resulting in 32 reports available to the public. In addition 15 reports were prepared for publication by cooperating State agencies and 27 reports were published in professional and technical journals.

Fuels. Continuation of the investigations on oil and gas resulted in the release of 19 maps and charts covering work in Alabama, Colorado, Georgia, Mississippi, Montana, New Mexico, Ohio, Utah, Virginia, and West Virginia. About 17,000 copies of these and earlier maps and charts were sold during the year. In order to increase the distribution of maps, field sales offices have been established at Tulsa, Denver, Casper, Billings, and Los Angeles. The preliminary reports on the investigation of Naval Oil Shale Reserves 1 and 3 and adjoining areas in Colorado were completed. Further field investigations were begun in the area west of the Naval Reserves. Considerable field data were obtained on the distribution and thickness of some of the oil-shale beds in Tennessee.

The definitive reappraisal of the coal reserves of the United States is one of the most urgent tasks confronting the Geological Survey, which was able during the fiscal year to make a beginning in this detailed examination by a complete study of the available data on the coal resources of Montana. Field work was continued in Colorado, North Carolina, Pennsylvania, and Washington.

General Geology. Although the rate of general geological mapping has continued to increase, nearly 12,000 fifteen-minute quadrangles remain to be mapped before the work covering the entire country is complete. To do this job requires the active participation of the geological profession and will require the enlistment of aid from organizations representing the mineral industries, universities, and State geological surveys. As a first step in such planning the Survey has prepared, for every State, a bibliographical index of all published geologic maps, and this information will be brought up-to-date periodically.

In the field of structural geology new concepts regarding the mechanics and forces involved in crustal movements resulted from study in the Great Smoky Mountains National Park and in New England. Places where present-day crustal movements are suspected were discovered in the Great Basin area of Nevada, western Utah, and southern California. Studies in Utah, northern Pennsylvania, and eastern Maryland have contributed to a better understanding of the effect of geologic processes on soil genesis. This study resulted in the discovery, in a fossil soil in Utah, of a lime-free clay that has superior properties for the manufacture of structural clay products.

Geophysics. Geophysical exploration, both aeromagnetic and ground surveys, were continued during 1948. A total of 66,400 miles of useful aeromagnetic traverse was flown, covering 36,000 square miles in 7 States and in the Aleutian and northern Pacific Islands. Ground surveys were made in 9 States, in the District of Columbia, and Alaska for determining the extensions of oil sands from producing wells, locating ground water, obtaining information on metallic deposits, and meas-

uring the depth and extent of permafrost in Alaska.

A new type of magnetometer was designed and constructed and is undergoing field tests. A new seismograph was completed for observation in Alaska, in connection with volcanic research. Devices for the orientation of drill cores were designed for use by field geologists.

Geochemistry and Petrology. This branch, primarily concerned with the application of specialized techniques of chemistry, physics, mineralogy, and petrology conducted research on a rapid method for the field determination of zinc, of uranium in low-grade material, and for quantitative spot-testing for several other elements. Six major projects ranging from the study and description of new minerals through comprehensive study of mineral groups were carried on as well as many cooperative projects with other sections. Three previously unknown clay deposits were discovered in Utah. Several hundred mineral determinations were made during the year for Survey geologists, ranging from the rapid determination of specimens to complete chemical analyses.

To keep pace with the expanding work of the Geological Survey a number of the modern tools of research have been ordered and will soon be put into use. These include an electron microscope, a mass spectrograph, a physical laboratory for determining physical properties of rocks and minerals, a microchemical laboratory, and facilities for conducting a program on radioactive age determinations and research on methods for the determination of radioactive materials.

Paleontology and Stratigraphy. The branch has continued to support the work of the economic geologists by identifying and correlating strata by means of fossils, making numerous examinations of materials submitted by field geologists and consulting with field parties on the ground. Studies have been made of the Woodbine formation of Texas, Jurassic faunas of the western interior region and Alaska, the floras of late Cretaceous and early Tertiary rocks of the West, the echinoid faunas of the eastern United States, foraminiferal faunas of various regions, the stratigraphy and conodont faunas of the black shales of the East and the invertebrates of the fossil faunas of the Canal Zone. Most of these investigations are long-range projects, and many will be continued beyond the end of the year.

Engineering Geology. Mapping projects active during 1948 were in cooperation with the construction work of the Bureau of Reclamation in North Dakota, Kansas, and central Utah, and with the United States Engineers' Lower Monumental dam site on the Snake River in Utah and the Puerto Rico Water Resources Authority's dam site and tunnel sites. Studies of construction materials include a map and report on the sand and gravel of Wyoming, and in several counties in Kansas and in Colorado. Areas in the States of Colorado and Utah where landslides occur frequently were mapped in detail. A geological dictionary for engineers was compiled during the year.

Military Geology. Nine major reports and 36 shorter reports were completed during the year. One of these, Technical Manual 5-254 *Military Geology*, will be published by the Adjutant General's Office, United States Army, for use as a guide in training or operations involving the application of geology to military problems. The other reports deal with terrain analysis, construction materials, water supply, airfield sites, construction of underground installations, permanently frozen ground, and mineral resources. Projects were carried on at

Fort Benning, Ga., Japan, Okinawa, Palau, Guar Bikini, and Alaska. Many of these projects were completed and the reports on them are being prepared. One geologist was assigned to Task Force 30, a U.S. Navy Antarctic Expedition.

Investigations in Alaska. The details for long-range geologic mapping in Alaska were developed during the year; and projects geared to this planning and carried-over projects from the previous year constituted the Alaskan program. The work included investigations of metals, non-metals, coal, petroleum and trace elements, and special attention was given to projects more apt to aid in short-range territorial development.

Work in other American Republics. The other American republics cooperated with the Geological Survey by furnishing funds and native geologists to assist in carrying on the work. As a result of the investigations, joint reports were prepared with maps containing bilingual legends. The reports published during the year covered such subjects as: Tungsten investigations in Argentina; nickel-cobalt manganese-oxide deposits, and manganese and iron deposits in Brazil; the mineral deposits of Central America; the mercury and tungsten deposits in Chile; the mineral deposits of Colombia, and the manganese deposits of Costa Rica; the chromite, manganese, and tungsten deposits of Cuba; the mineral deposits and aluminous laterite soils of the Dominican Republic and Haiti; the volcanic Sangay in Ecuador; the quicksilver, lead, zinc and copper of Peru; and a number of projects covering several mineral commodities in Mexico.

Topographic Division. With the modern methods and increased production afforded through the use of aerial photography, the Geological Survey has produced more maps during the past year than in any corresponding period in its history. The demand for maps by Government and State agencies and private concerns continues to increase in volume. To meet these needs, plans have been made for the acceleration of mapping operations which if adequately financed, would accomplish complete coverage of the United States in approximately 20 years.

Geodesy and Control Surveys. During the year the newly reorganized branch prepared instruction manuals, conducted projects in new control-survey methods, and inspected current control-survey projects. Information from all available sources for application in control for mapping was collected. The development of an electrical device for adjustment of survey nets was completed and it is now in use for adjustment of leveling and traverse nets. A new vacuum chamber has been procured, making it possible to calibrate precision altimeters in sets of six. Two new instruments to measure elevation continuously in an automobile or trailer have received extensive field tests. The use of shoran and other electronic methods of position determination are being observed as possible means to establish horizontal control for mapping.

Photogrammetry. New designs for plotting instruments were prepared and new adaptations in combinations of photogrammetric equipment and technique have been used as a basis for the design of more accurate plotting instruments. New plotting instruments have been designed and others are being manufactured and placed in use. Work has also been started on the design and manufacture of a near distortion-free photographic lens which, if successfully accomplished, will have marked influence on all mapping activities. Aproximately 35,000 square miles of new photographs were contracted for during the year at

photographs of nearly 50,000 square miles were delivered on contracts placed in previous years.

Topographic Surveys. Technical instructions covering four new procedures or changes in treatment of map features were issued and others are in progress. Bulletin 788, *Topographic Instructions*, issued in 1928, was reviewed and an appraisal citing the technical memorandums required to cover changes in procedure since the original date of publication was issued. A revision of Bulletin 788 is in progress. New stadia reduction tables and a field notebook for supplemental control surveys were designed and issued.

Cartography and Map Editing. In the past year 345 new topographic maps were edited and published and in addition, 450 maps, the stock of which had been exhausted, were reprinted. A total of 120 maps for 26 professional papers, bulletins, and water-supply papers were examined. The editing and printing of military maps for civil use was instituted. Included in the totals listed above were 6 new topographic maps of this type and approximately 70 of the reprint group.

The drafting, editing, and reproduction of standard topographic maps compiled by other agencies in compliance with our current distribution policies was inaugurated. A style and symbol sheet was developed during the year in collaboration with other Federal map-making agencies to insure uniformity in the use of symbols and in format. Specifications were developed for the production of maps at the scale of 1:500,000. Division representation was supplied for the interagency committee on symbolization of topographic maps of the Joint Mapping and Photography Committee.

Map Information Office. The growth of the Map Information Office as a central source of information regarding maps, aerial photographs, and control surveys has exceeded all expectations. This is shown by the fact that the volume of correspondence regarding these maps increased more than 113 percent in 1948 over the previous year. The principal users of this service have been engineers and geologists in highway planning, oil research, and industrial development projects. This office also provided technical data for use in connection with drainage, flood control, irrigation, water supplies, hydroelectric, television and radio broadcasting, and transportation projects. Numerous requests were received from educational institutions for mapping and surveying data.

During the year this office continued to maintain and further augment information regarding all published or otherwise available topographic and planimetric maps, aerial photography, aerial mosaics or photo maps, geodetic control, and data pertaining to work in progress and new schedules of the various Federal agencies interested in surveying, mapping, and photogrammetry.

Compilation of two new status of topographic mapping indexes was completed. These indexes evaluate topographic map coverage in the United States, Alaska, Hawaii, Puerto Rico, and Panama. One index shows map scales of one inch to the mile or larger, the other shows only reconnaissance maps at smaller scales. Publication of these maps is scheduled for early in 1949.

Also in preparation is a new edition of *Map Collections in the District of Columbia*. This publication briefly describes the map collections of Government and district agencies as well as some private collections, and will be printed during 1949.

Compilation of the first edition of two new indexes showing the status of geodetic control was completed and forwarded for reproduction. These

indexes will show horizontal and vertical control by the Geological Survey and other agencies, and will be available early in 1949.

The third edition of the status of aerial photography in the United States was compiled and published. This issue shows available primary photography, additional coverage in areas photographed more than once, and new projects under way—all as reported by Federal agencies, numerous State agencies, and commercial concerns. A supplementary series of small State maps showing all the aerial photographic holdings of the Survey, scales, dates, lens focal lengths, and project symbols were completed. While this is not a regular publication issue, copies are available under certain conditions to interested users.

Other major items now available from the Map Information Office through arrangements initiated or augmented during the year include photographic or photostatic copies of map manuscripts and other official records as well as reproductions from aerial film held by the Survey. Four division laboratories have been equipped and staffed to meet the demand for this type of material.

The office has continued to serve as a central clearing point where any agency contemplating new surveying, mapping, or photogrammetric projects can learn of similar existing or contemplated work in their area of interest, thus preventing unnecessary duplication or overlapping of mapping activities. It also acted for the Survey on a committee of representatives of all Government agencies which procure and use aerial photography for mapping or related cartographic purposes. One of the major accomplishments during the year was the establishment of uniform prices for aerial photographic reproductions sold by Federal agencies. The sale of aerial photographic prints during the year increased nearly threefold.

A continuing interest was shown by foreign engineers in the Geological Survey methods of mapping and visitors were entertained from China, Siam, India, New Zealand, New South Wales, Switzerland, France, Holland, Turkey, Liberia, Argentina, Brazil, Ecuador, Chile, Mexico, and Canada.

Special Map Projects. Eight sheets of the International Map of the World were published or were in the process of publication at the end of the year. Preparation of the Transportation Map of the United States, scale 1:250,000, for the Public Roads Administration was in progress. Sheets of these maps for West Virginia, Nevada, Ohio, and Virginia were in various stages of reproduction, and Alabama and Louisiana were transmitted for reproduction. Those for Indiana, Missouri, Mississippi, and Kentucky were in various stages of compilation. New series of State base maps for Indiana, Illinois, Iowa, Oklahoma, and Mississippi were in progress of compilation, and those for Massachusetts, Rhode Island, Connecticut, Wyoming, New Jersey, Maryland, and Delaware were in various stages of reproduction.

A cartographic program for the publication of two general-purpose maps of Puerto Rico, scales 1:120,000 and 1:240,000, was undertaken for the insular government. Another program, also for this government, involves the publication of a special edition of the 1:30,000 scale quadrangle maps of the island, emphasizing political subdivisions. These maps are being prepared for use in the census of 1950.

Trimetrogon Mapping. The trimetrogon method of mapping and charting was continued for the U.S. Air Force. The maintenance of adequate world coverage of aeronautical charts is a part of the

work of this branch which also reviews and evaluates and, if necessary, revises or compiles charts by photogrammetry. The branch also maintains the only world-wide reference library of trimetrogon photographs. During the year the branch completed more than 850,000 square miles of new compilation and revised over 1 million square miles of charts and more than 450,000 square miles of cartographic compilation. This charting covers practically every part of the world. Special photo-mosaics were prepared for use by the U.S. Navy Task Force operating in Antarctic regions, and the compilation of Antarctic aerial photography is now in progress.

Mapping Accomplishments. During the year topographic mapping was carried on in 38 States, Alaska, and Puerto Rico. Cooperative projects were conducted with 18 States and with the Tennessee Valley Authority. The mapping of 467 quadrangles was completed and mapping was in process on 259 additional quadrangles. In addition, work on 1,401 quadrangles prior to actual mapping was in progress. In addition mapping was completed for 14 posts, camps, and stations on a cooperative basis with the military departments. The areas covered approximately 52 fifteen-minute quadrangles.

Water Resources Division. Water is one of a few natural resources that are renewable. When a known deposit of our minerals and mineral fuels is used up, we must either find new deposits or turn to the development of low-grade or less valuable deposits. However, water is constantly being replenished in the continuous operation of the hydrologic cycle—water transformed from the sea and the land to vapor in the air, and then precipitated back upon the earth. Only by keeping records of the never-ending changes in our water supplies can we know what our water resources are and what they can be used for. As the limit of a water supply is approached, the demand for reliable data becomes more insistent. The importance of this work is recognized when we consider the number of cooperative projects carried on with more than a score of Federal agencies and with 50 State and Territorial governments.

In 1948 this work was conducted from more than 100 field offices which maintained close contacts with State, municipal, and Federal officials. These offices are also local sources of information as to available water resources, fluctuations of the water table, and the chemical and physical quality of surface and ground waters.

Surface Water. There has been a steady increase during the year in demands from many sources for surface-water information, and at the end of the fiscal year about 6,000 gaging stations were in operation. Laboratories and shop equipment for the development and improvement of equipment for stream measurement were expanded. This included a special type of snow-mobile, for winter observations in remote mountain areas, which was developed and constructed in cooperation with the Soil Conservation Service.

Progress was made in cooperating with the Public Roads Administration and various State highway departments on better utilization of stream-flow records in hydraulic and hydrologic problems connected with highway structures. Research has been carried on in the field of indirect measurements of stream-flow in efforts to improve the accuracy of determination of peak discharges. A comprehensive study and report of the record-breaking 1948 Columbia River flood will be completed during this year.

Ground Water. It is the purpose of ground-water

investigations to define the location, areal extent, and thickness of underground reservoirs and to determine the amount of water that is stored and can be economically recovered from them. These investigations involve collection of well data, geological studies, test drilling and pumping, and geophysical surveys. Some of the important studies completed during the year were: In the Piedmont area of North Carolina statistical studies of the factors relating to the yield of wells showed that topographic location is of great importance, and the results of the studies, which are applicable over the entire Piedmont area from southern Pennsylvania to Alabama, make possible more effective locations of successful well sites; in Michigan a study of mine-drainage problems laid the foundation for attack on similar problems elsewhere; completion of the intensive phases of a comprehensive investigation of water resources in southeastern Florida made available a large mass of data, much of which is applicable to other coastal areas where sea water is contaminating ground water.

During the year nearly 400 projects were carried on in nearly every State and Territory. Nearly 250 formal reports of various kinds were prepared and several thousand requests for information on ground-water conditions were answered.

Quality of Water. Pure water does not exist in nature. Every drop of rain water carries dust, pollen, smoke, and the atmospheric gases. Because water is a powerful solvent, the rain water running over rocks and percolating through the soil gathers more and more mineral matter in solution. This dissolved matter, or suspended matter carried by the water, is of primary importance in determining the suitability of the water for many uses. During 1948, 17,500 samples of water were analyzed in the 12 laboratories of the Geological Survey, in Washington and in the field, adding to the growing storehouse of information on the chemical composition of the Nation's water resources.

Cooperation in these investigations was carried on with the States of Virginia, North Carolina, South Carolina, Georgia, Pennsylvania, Florida, Arkansas, Texas, Oklahoma, Ohio, Iowa, New Mexico, and Colorado. The importance of the large quantities of sediment transported by rivers becomes apparent when considered with the increasing demand for large dams to impound water for irrigation, power development, and industrial use, as this sediment is dropped in the reservoirs created by the dams. More than 80,000 samples were analyzed for sediment content during the year.

Missouri River Basin. The coordinated projects of the Bureau of Reclamation and the Corps of Engineers, Department of the Army, for the development of the Missouri River Basin require extensive water investigations, which are generally conducted in cooperation with States and municipalities. These investigations were supplemented by the operations of 165 stream-gaging stations; by studies in the vicinity of 33 reclamation units, related to ground-water supplies or conditions that may result from reservoir construction and irrigation; by 40,200 measurements of sediment content at 48 stations; by 2,500 chemical analyses; and by hydrologic studies related to proposed plans of development. The information obtained through these investigations is furnished to the above agencies.

Interstate Compacts and International Treaties. Interstate compacts for division between States of waters of interstate streams, which require the Geological Survey to establish and operate gaging stations, are now in effect in Colorado River (Wyoming, Utah, Colorado, New Mexico, Arizona, No-

vada, California); Belle Fourche River (Wyoming, South Dakota); Republican River (Nebraska, Kansas); Rio Grande (Colorado, New Mexico, Texas); and Costilla Creek (Colorado, New Mexico). Similar compacts are in progress of negotiation for Arkansas River (Colorado, Kansas) and Bear River (Idaho, Utah).

International problems related to water are increasing. The Geological Survey, using funds transferred by the State Department, makes the water-resources investigations along the Canadian boundary that are required by orders issued by the International Joint Commission, United States and Canada, under the treaty of Jan. 11, 1909.

In addition to these continuing investigations needed for division and control of waters along the international boundary, several special investigations were made in 1948 in connection with references before the Commission, particularly those relating to the Columbia River Basin, Sage Creek, Mont., Waterton and Belly Rivers, and Souris and Red Rivers. The Geological Survey, through agreement with the State Department, has continuing obligations for obtaining water-resources information along the Mexican boundary as required by the Mexican Water Treaty of 1944. Members of the Geological Survey serve on several international engineering boards.

Conservation Division. Under delegation of authority from the Director of the Geological Survey the branch classifies public lands of the United States as to mineral and water resources and under authority delegated by the Secretary of the Interior it supervises mineral recovery operations under leases, permits, and licenses on public, acquired, Indian, and Naval petroleum reserve lands. The staff makes field surveys; prepares maps and reports dealing with water power, fuels, minerals, and chemicals; and supervises mining and drilling methods essential to the conservation of, and economical and safe production of, coal, oil, gas, and other minerals.

Mineral Classification. All phases of the service rendered by the Mineral Classification Branch were maintained at a greatly accelerated pace in 1948. In all, nearly 29,000 cases (an increase of 76 percent) involving the disposal of public lands and the determination of the mineral character of such lands were acted on during the year. In addition the branch prepared determinations of the potentialities for fissionable source material on 3,715 parcels of land in practically every State and possession. Investigations were conducted from field headquarters in Colorado, Wyoming, Montana, Utah, California, New Mexico, and Oklahoma precedent to public-land and mineral-leasing law investigations, resulting in numerous maps and reports for official use; a published map on the areal and structural geology of the Mush Creek area, Weston County, Wyo.; and the completion of similar maps on several areas in Montana.

Oil and Gas. At the end of the fiscal year nearly 13,500 oil and gas properties were under supervision, aggregating nearly 11 million acres in 22 States and Alaska. This represents an increase of 23 percent in the number of properties and 32 percent in acreage since the close of the last fiscal year. Oil and gas production of about 76 million barrels from some 7,500 producing wells rendered a royalty return of \$20,834,000 to the United States. Approval of 41 new plans for unitization of oil and gas operations involving Federal land brought the total of such plans to 163, covering 2,366,000 acres. Supervision of oil and gas leases on Indian lands, covering 5,913 leaseholds in 12 States, and

containing 4,574 producing wells, returned annual revenues in royalties, rentals, and bonuses amounting to \$7,609,000. Supervised operations on Army and Navy leases brought in additional revenues of \$1,393,000.

Water and Power. Field work to determine water and power resources included topographic surveys of 3 dam sites, 26 square miles of reservoir sites, and 200 linear miles of river channel surveys; supervision of construction and operation of 159 power projects under license with the Federal Power Commission; 263 projects under permit or grant from the Department of the Interior; and 173 in cooperation with the Bureau of Indian Affairs. Classification of lands decreased slightly the average of power-site reserves in 23 States and Alaska, leaving 6,768,997 acres in these reserves. Published maps covered 1,640 miles of channel of 14 rivers, 43 square miles of reservoir sites, and 37 dam sites.

Mine Supervision. This involves the supervision of prospecting and producing such minerals as coal, potash, lead, zinc, sodium, phosphate, etc. There were under supervision at the end of the year 956 properties—607 on public domain, 256 on Indian, and 84 on acquired lands. The minerals produced under Geological Survey supervision during the year were valued at nearly \$86 million and the royalties therefrom amounted to \$2,794,000. About 97 percent (more than 1 million tons K_2O equivalent) of the national output of potash salts was produced from leased Government lands in California and New Mexico. In all, more than 30 minerals or mineral products were produced under the supervision of the Geological Survey during the year.

Publications. During the year 75 manuscripts were sent to the printer, and 61 publications were issued. A total of 264 new maps were printed, including 188 multicolor topographic maps, 10 index maps, 19 preliminary geologic maps, and 22 special maps. Reprints were made of 364 maps, resulting in the delivery of nearly 2 million copies of new and reprinted maps.

The Division of Distribution received a total of 3,907 publications (maps and reports) during the year, and in addition 3,021 Army maps were turned over to the Geological Survey. The division distributed 104,928 books and pamphlets, 2,992 folios, and 1,054,720 maps, a total of 1,162,640. Total net receipts from the sale of maps and folios were \$154,439, representing approximately 70,000 sales.

—CHALMER L. COOPER

GEORGIA. A south Atlantic State. Area: 59,265 sq. mi. Population: (July 1, 1948) 3,128,000, compared with (1940 census) 3,123,723. Chief city: Atlanta (capital), 302,288 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$151,516,000; total expenditure, \$141,791,000.

Elections. Truman won the State's 12 electoral votes by gaining a popular majority over Thummond, Dewey, and other candidates. Herman Talmadge, Democrat, won the governorship, contested since the death of his father as governor-elect in late 1946. Incumbent Democratic Senator Richard B. Russell was reelected without opposition, and all 10 seats in the lower house remained Democratic.

Officers, 1948. Governor, Melvin E. Thompson; Lieut. Governor, (Vacancy); Secretary of State, Ben W. Fortson, Jr.; Attorney General, Eugene Cook; State Treasurer, George B. Hamilton; State

Auditor, B. E. Thrasher, Jr.; Comptroller General, Zach Cravey.

GEORGIA WARM SPRINGS FOUNDATION. A medical institution founded by Franklin D. Roosevelt, in 1927, for the study and treatment of the after-effects of infantile paralysis and for the dissemination of observations and methods of proved merit resulting from its work. It is located at Warm Springs, in west-central Georgia. Patients are admitted only after the disease has passed the acute state. Over 800 were treated during 1948.

No profit is derived from patients. Although some pay part of the cost of treatment, no one is refused admission for lack of funds. The institution is financed primarily by grants from The National Foundation for Infantile Paralysis which conducts an annual Fund Raising Campaign including the March of Dimes. Officers: President and Treasurer, Basil O'Connor; Executive Secretary, Raymond H. Taylor; Medical Director of the hospital staff, C. E. Irwin, M.D. Chief office of Georgia Warm Springs Foundation: 120 Broadway, New York 5, N.Y.

GERMAN LITERATURE. The year 1948 lent itself to commemorative events which the German world of letters marked in such a way that characteristic literary trends came to light. A glimpse of hope was injected into a dismal picture and a cosmopolitan strain admitted through a narrow door, since the ideas of reevaluation and reconstruction emerged stronger and stronger from the writers' minds.

The Revolution of 1848 was reviewed as an unsuccessful and unfinished attempt which placed the present generation before the challenging task of completing a movement that failed a hundred years ago. Addresses possessing documentary value that centered around this theme included: Fritz von Unruh, *Rede an die Deutschen*, delivered and published at Frankfurt am Main; Friedrich Meinecke, 1848 *Eine Säkularbetrachtung*; E. Kaehor, *Berlin 1848*; a collection of pamphlets and poems entitled *Geistige Freiheit, persönliche Freiheit*, with the meaningful subtitle *Bekennnis und Ruf des geistigen Berlins*.

In Vienna Rudolf Kissling interpreted copiously *Die Revolution im Kaisertum Oesterreich 1848-1849*. (2 vols. with plates and maps.) Not a single periodical failed to devote a special number to the reinterpretation of historical, cultural, and literary events of 1848.

Another commemoration went back to the year 1248 when the cornerstone of the Cathedral of Cologne was laid. For this seventh centenary the present scene of devastation formed frame and background. The damaged spires that rise above the ruined city served as a reminder that past and present are closely connected and that the new can only spring from a deeply rooted foundation. This strange combination of beauty, grandeur, and devastation inspired such works as: Heinrich Lützel, *Der Kölner Dom in der deutschen Geistesgeschichte*, published in a series of academic treatises at Bonn; Hermann Claassen, *Gesang im Feuerofen: Reste einer alten deutschen Stadt*, a picture book with text, published at Düsseldorf, a beautiful publication with superb photographs. Representative in its very title is an article "Feier in wunder Stadt, 700 Jahre Kölner Dom," printed in the periodical *Die Brücke*.

Commemorations in an atmosphere of ruins may be indicative on one hand of an attitude of acceptance and resignation, may on the other hand lead to a glorification of the past; if, however, a retro-

spective mind is anxious to review and render account, critical writings result. Many of the 1948 publications were dominated by a conscious will to bridge existing gaps both in time and space.

As in preceding years, the trend was away from the big tome to the booklet, from the essay to the pamphlet, from the epic to the lyrical poem; brief forms being better suited to give expression to the tension and anxiety of an uncertain era. Consequently the series of essays and radio talks, the lyrical anthology, the periodical, and the literary almanac have all grown in importance, and are again a clear indication of the currents of this age. Even the titles are suggestive: *Erbe und Zukunft*, *Der Anfang*, and *Bestimmung und Ausblick*.

It is strangely paradoxical that, geographically speaking, it is as correct to talk of a continuously dwindling as it is to talk of a steadily expanding area. We do not find a compact national unit, but rather a group of islands scattered over a wide area within and without the boundaries of Europe. While Sweden, Holland, and Switzerland continue to be firmly established as important centers of German publications, former outstanding centers such as Königsberg and Breslau in Eastern Germany have practically ceased to exist.

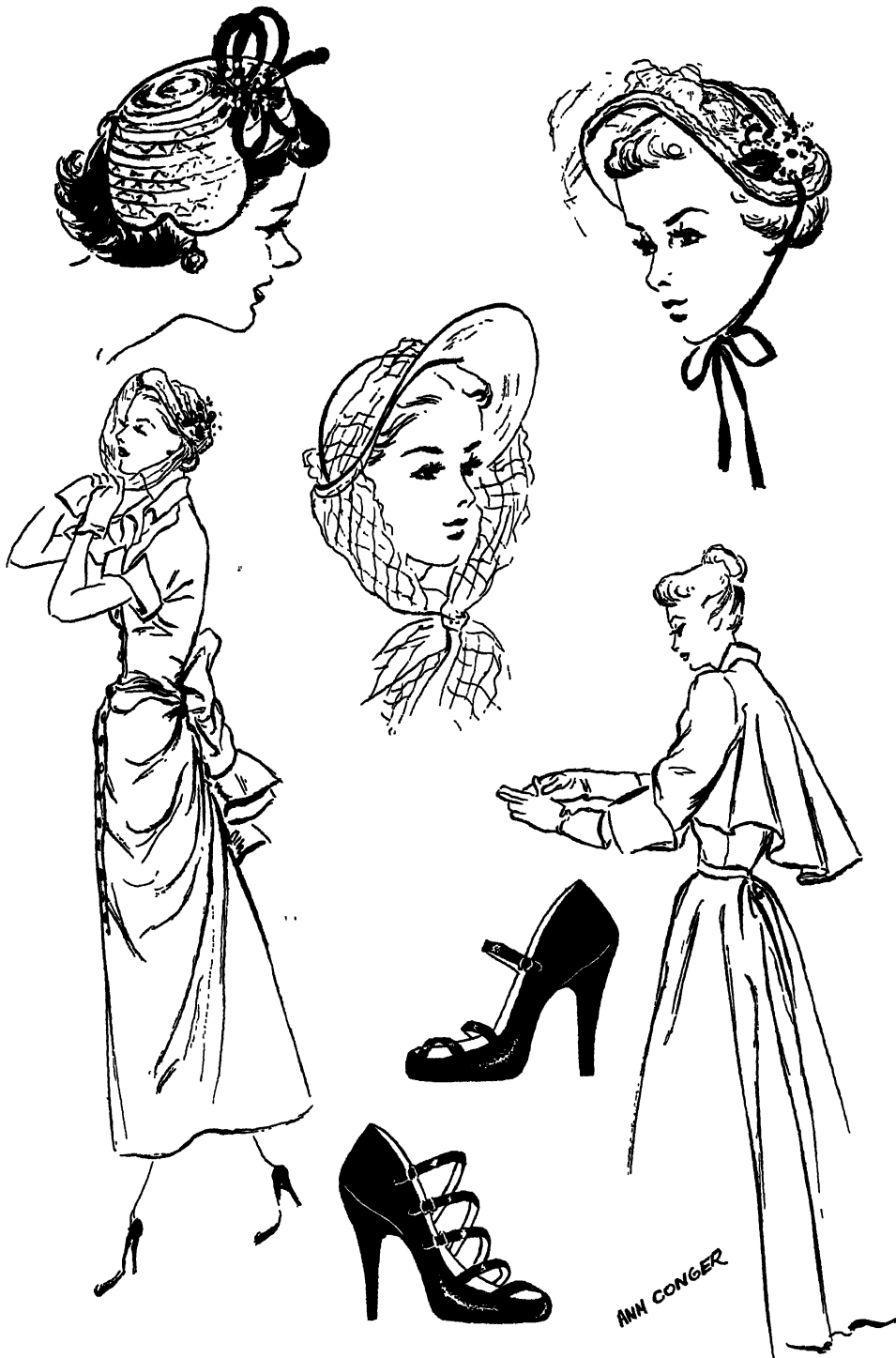
In contrast to this, reports from Austria and Western Germany show that a remarkable improvement in quantity and even in quality has been achieved. German literary activities have taken place in practically all corners of the globe. Contacts were established and reestablished between intellectuals inside and outside of Germany, between *émigrés* and the so-called *inner emigration*, between the old and the young.

The dean of German historians Friedrich Meinecke was made an honorary member of the American Historical Association—the first since Theodor Mommsen; Fritz von Unruh received both the plaque of the Paulskirche and the Goethe prize of the city of Frankfurt on his first visit to his native country; Paul Hindemith received the honorary degree of Ph.D. from the University of Frankfurt.

The names of literary awards as well as of the recipients of such prizes point to a decided change in literary approach. Herbert Eulenberg—whose voice had been silenced during the Hitler era, and who published a short biography of Heinrich Heine, written in the witty vein of Heine's travelogues, was honored with the Heine prize; Anna Seghers who returned from Mexico to Berlin, was awarded the Büchner prize for 1947. The Innermann prize of the city of Düsseldorf went to Emil Barth, author of *Lemuria-Aufzeichnungen und Meditationen* and of *Xantener Hymnen*.

Victims of the Third Reich received a belated, sometimes posthumous, recognition. Many poets of the 19th century were reevaluated and their works readmitted: Annette von Droste-Hülshoff, Franz Grillparzer, Georg Herwegh, Gottfried Keller, Fritz Reuter. But above all Heinrich Heine and Georg Büchner aroused interest. One of Büchner's editors, Kasimir Edschmid, is working on a novel based on Büchner's life and literary achievements. Eugen Diem wrote a biography *Georg Büchners Leben und Werk: Seine Gestalt, sein Leben, sein Werk, sein Fortwirken*.

In Lübeck, Thomas Mann archives were opened; in Stuttgart, the Reclam Universal Library was reestablished. An exhibit of German books published since the end of the war was arranged in Academy Hall in London. The Austrian P.E.N. Club met in Copenhagen under the leadership of Franz Theodor Czokor, and a German P.E.N. Club was founded at Göttingen. The presiding officers were: Pro-

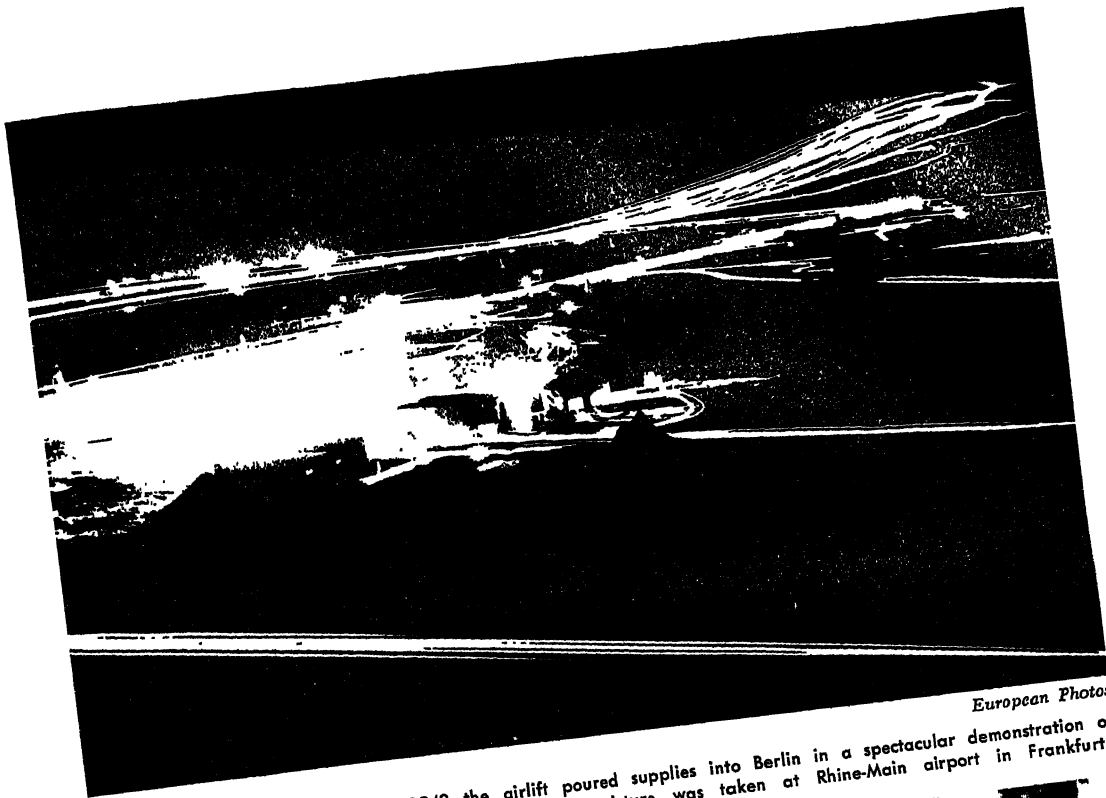


FASHIONS IN 1948. This was a year of dress-up fashions with stress on femininity in styling, richness of fabrics and elegance of accessories. In suits and dresses shoulders were rounded and narrow; back fullness was a notable feature; tasteful detailing and draping were important. Large collars and wide, cuffed sleeves also were common. Hats were small to accommodate the new short hair-dos, and spring featured the "Rooftop of Paris"—a small, flat ledge of straw bonnet, veiled and bowed under the chin. In shoes, unusually low-cut vamps and straps were the rage, as the formerly popular open-toe styles almost completely disappeared, and ballerina shoes were in favor until the fall.



British Information Services

FASHIONS in fine, light woolens. (*Top left*): Negligee in dawn-blue, washable, fine wool, cut on extremely full lines. The yoke and cuffs are quilted and embroidered with pink sequins, and pink satin outlines the yoke. (*Top right*): White wool lace in a housecoat with shawl collar and full skirt. (*Bottom left*): Housecoat in old rose wool falls in deep folds from a laced waistband. Black velvet lines the wide collar and gauntlet cuffs of black-and-white checked wool. (*Bottom right*): Nightgown in fine wool delaine, with cream lace threaded with blue silk.



European Photos

AIRLIFT. Night and day through 1948 the airlift poured supplies into Berlin in a spectacular demonstration of the fact that such an operation was possible. (This picture was taken at Rhine-Main airport in Frankfurt.)



IN BERLIN AN OLD WOMAN, weak with hunger, faints in the arms of a policeman. Bystanders hold their places in line, waiting for low-cost municipal food. Diplomats signed no German or Austrian peace treaty in 1948. **A PETITION FOR UNITY**, addressed to the four Allied Military Governors, is signed by the people of the Russian sector of Berlin. The Western powers did not allow participation in their sectors.



PRINCE CHARLES Philip Arthur George of Edinburgh, born on Nov. 14, 1948, the infant son of Princess Elizabeth and the Duke of Edinburgh. The photograph was taken when Prince Charles was one month of age.

Photos from British Information Services



COMMONWEALTH CONFERENCE began at 10 Downing Street in London, on Oct. 11, 1948, under the Presidency of Premier Attlee. Some of the Prime Ministers are shown walking into the garden at 10 Downing Street.



ROOSEVELT MEMORIAL. Mrs. Roosevelt unveiled the Memorial to Franklin D. Roosevelt on Apr. 12, 1948, in Grosvenor Square, London. The picture shows King George VI and Mrs. Roosevelt leaving after the unveiling.

fessor Friedmann from London, Johannes R. Becher from the Soviet zone, and Ernst Penzoldt from the American zone. Erich Kästner and Rudolf Schneider-Schelde were elected secretaries. Karl Zuckmayer, whose play *Des Teufels General* is a continued success on the German stage, addressed the second International Youth Congress at Munich.

Among the authors who attended the German Writers Congress at Frankfurt were: Walter Kolbenhoff, Elisabeth Langgasser, one of the most outstanding poets, Kurt W. Marek, Hans Mayer, Theodor Plivier, Rudolf Alexander Schröder, Fritz von Unruh, and Leo Weismantel. A younger group assembled near Darmstadt, where under protest and acclaim Wolf-Dietrich Schnurre read his allegory *Das Begräbnis*, a strange mixture of realistic, surrealist, religious, and nihilistic elements. This assembly consisted of relatively unknown names: Wolfgang Bächler, Günther Eich, Sebastian Grill, Ilse Schneider-Lengyel.

For several writers the renewed contact with Europe or Germany resulted in literary works. Fritz von Unruh tells of *Diaries* in the making, of a comedy based on actual experiences in Germany during his trip. Alfred Döblin has been honored on his 70th birthday with a *Festschrift*, beautifully edited by Paul E. Lüth. Among the contributors the following names are found: Johannes R. Becher, Otto Flake, Hermann Kasack, Heinrich Mann, Günther Weisenborn, Wolfgang Weyrauch. Alfred Döblin contributed an *Epilogue* and a bibliography, from which we learn about Döblin's literary achievements during his years of exile. Many stories, among these the novel *Hamlet* are awaiting publication. Alfred Neumann, after a lecture tour through Norway, Sweden, Denmark, Holland, Switzerland, and Italy, is working in Florence, trying to carry out plans of a decade ago.

In enumerating the passing of German and Austrian writers who died in foreign countries, we are again reminded of the expansion of German literary creation. Karl Wolfskehl, Stefan George's friend, died in Australia; Egon Erwin Kisch, the "mad reporter" from Prague, in Mexico; Emil Ludwig, biographer and journalist, and Jakob Haringer, the Austrian lyrical poet, in Switzerland. Adam Scharrer and Georg Kolbe, the sculptor, died in Germany.

It has almost become immaterial where the reviewer of German literature has his observation point. The exchange of books has been greatly facilitated, and excellent bibliographies are at his disposal, even in the United States. The most reliable of the latter are: *Deutsche Nationalbibliographie*, published in Leipzig; and *Deutsche Literaturzeitung für Kritik der internationalen Wissenschaft*, published in Berlin. *Deutsche Vierteljahrschrift für Literaturwissenschaft und Geistesgeschichte* as well as *Philobiblion*, and *Zwiebelfisch* have reappeared, and the *Maximiliansgesellschaft* is functioning again.

Periodicals continue on a high level, some have changed names or are looking for new ones. *Die Fähr*e changed its name to *Literarische Revue*. Among the contributors are Stephan Andres, Werner Bergengruen, Bert Brecht, Hanns Henny Jahn, Thomas Mann, Albrecht Schaeffer, and Karl Zuckmayer. *Karussell* counts among its contributors Otto Flake, Manfred Hausmann, Anton Schnack, Georg von der Vring. Contrary to the policy governing the publication of books, periodicals have been issued in large numbers.

Literary research has offered a strange mixture of scholarly attempts and immature and irrespon-

sible publications. Paul E. Lüth, a talented poet and essayist, editor of the periodical *Der Bogen*, author of the essays *Meditationen-Gestalten-Geschichten*, and editor of a lyrical collection *Der Anfang* (1947), is definitely not qualified to write a history of literature. His *Literatur als Geschichte* which claims to be the first postwar history of literature, has been branded as a book of plagiarism.

F. C. Weiskopf's *Unter fremden Himmeln* is a survey of German literature in exile (1933-1947). Stephan Hermlin and Hans Mayer have jointly published 30 essays on contemporary literary problems under the unassuming title: *Ansichten über einige Bücher und Schriftsteller*.

Theater and Drama. Stirring events in music and in the theater took place throughout the year. From many places exciting performances have been reported. Bert Brecht's comedy *Herr Puntila und sein Knecht*, introduced by a prologue in verse, consists of loosely connected pictures in which the author is searching for the old conception of human values. Hans Rehberg, author of Tudor dramas and other historical plays might be called an interesting counterpart to Maxwell Anderson, since many of his subjects resemble those of the American dramatist. *Elisabeth and Essex* was performed in Stuttgart and Wuppertal; *Bothwell* in Kiel and Karlsruhe; *Heinrich VII*, a drama about power and arrogance, is to be performed in January, 1949, at Munich.

Hanns Henny Jahn who received the Kleist prize in 1920, is the author of *Armuth, Reichthum Mensch, und Tier*. Ilse Langner wrote *Iphigenie kehrt heim*. Fritz von Unruh's *Der Befreiungsminister* is to have its first performance in Westphalia. Ernst Wiechert's comedy *Die Unsterblichen* was performed in Italy, Switzerland, and Belgium.

Among young dramatists who caused quite a stir with their sensational, often shrill and scurrilous plays, we mention: Jochen Thieme, *Der Zirkus brennt*; Hans Mundt, *Unter Fahnen und Galgen*; Wolfgang Borchert, *Draussen vor der Tür*; Renate Uhl, *Um den Menschen wird noch gekämpft*. Max Frisch's drama *Die chinesische Mauer* has met with great success.

Books on the theater include: Benno Fleischmann's, *Max Reinhardt-Die Wiedererweckung des Barocktheaters*; Oscar Maurus Fontana's, *Wiener Schauspieler*; Franz Herterich's, *Das Burgtheater und seine Sendung*.

Lyrical Poetry. There has been an intensified production of poetry, partly reminiscent of Rilke's and Hölderlin's rhythms. Firmly established is the reputation of Oda Schärer, Elisabeth Langgasser, and Rudolf Hagelstange. Manfred Haushofer's beautiful sonnets *Moabiter Sonette* were posthumously published in Switzerland. New names of a younger generation include the authors of seven little volumes, entitled *Ruf der Jugend*: Klaus Prager, Nino Erné, Traute Quade, Siegfried Borries, Paul Heinz Quade, Heinrich Graef, Siegfried Heldwein. Georg Maurer's *Sonette, Gesänge der Zeit* and Wolfgang Weyrauch's poems are remarkable. There are also several anthologies, such as *Das Erbe, Lyrik des Abendlandes, Frauenlieder aus drei Jahrtausenden*, and *Die Sammlung*.

Fiction. Many novels were written in the United States: Leonhard Frank's *Matilde* and his short *Deutsche Novelle*—with the nostalgic title—is ready for publication following its appearance in England under the title *The Baroness*. Also Martin Gumpert, *Der Geburtstag*; Alfred Neumann, *Der Pakt, Die Goldquelle*. Wilhelm Speyer's *Das Glück der Andernach* is a novel about Berlin in the 1880's, which the author wrote in California.

Friedrich Torberg published his first fiction in ten years: *Hier bin ich mein Vater* while Heinrich Mann wrote *Der Atem*. Novels written in Germany include: Hermann Kasack's, *Stadt hinter dem Strom*; reminiscent of Kafka, with a title suggesting that the city is no man's land between this world and beyond. Elisabeth Langgesser, Anna Seghers and Wolfgang Weyranch are outstanding novelists. Wolfgang Borchert's short stories, *Es geschah an einem Dienstag* and Alfred R. Böttcher's *Mensch ohne Maske* deserve to be singled out.

Fritz von Unruh's novel *Der nie verlor* followed last year's English translation *The End Is Not Yet*. German fiction in English translation included Stefan Heym's, *The Crusaders*; Thomas Mann's, *Doctor Faustus*; Richard Plan's first novel *The Dragon in the Forest*; Theodor Plivier's, *Stalingrad*; and Reinhold Schneider's, *Imperial Mission*.

Memorable achievements were made in the field of literary, philosophic, and esthetic writings. Ernst Robert Curtius wrote *Europäische Literatur und lateinisches Mittelalter*; Karl Jaspers, *Der philosophische Glaube und Von der Wahrheit*; Georg Lukacs, *Deutsche Literatur während des Imperialismus* and *Der junge Hegel*; Thomas Mann, *Neue Studien*; Leopold Ziegler, *Menschwerdung*. Autobiographical writings in the field of art and music included: Käthe Kollwitz, *Tagebuchblätter und Briefe*; Wilhelm Furtwängler, *Gespräche über Musik*.

Throughout the year preparations were made for the celebration, in 1949, of the bicentennial of Goethe's birth.

—ANNA JACOBSON

GERMANY. A former Federal Republic of Central Europe, wholly occupied by Allied military forces for an indefinite period. It is divided into four zones of occupation: Russian (east), American (southwest), British (northwest) and French (west). The former capital, Berlin, is similarly divided into four occupation sectors.

Area and Population. The total area of occupied Germany (exclusive of territories annexed or provisionally administered by the Soviet Union and Poland, and of the Saar territory) is 136,237 square miles, of which the Americans occupy 41,260, the Russians 41,043, the British 38,010 and the French 15,800, the remainder being the Berlin city district. Germany's population was established by the census of Oct. 29, 1946, as follows (in brackets: est. pop. on Apr. 1, 1948): U.S. zone, 17,174,367 (18,640,331); British zone, 22,344,900 (26,417,764); Russian zone, 17,313,581; French zone,—then including the Saar—5,939,807; Berlin, 3,182,852, making a total of 65,955,507. The sharp increase in the population of the American and British zones is due to a further influx of refugees from the east since the census was taken. The resident population of the bizonal area, on Apr. 1, 1948, was 37,753,000 and the number of refugees living there was 7,805,095, making a total of 45,058,095 for the combined zones. Population of the principal cities in 1946: Hamburg, 1,427,000; Munich, 758,000; Leipzig, 608,111; Essen, 506,000; Cologne, 496,000; Dresden, 463,032; Dortmund, 436,198; Frankfurt-am-Main, 430,000; Düsseldorf, 421,506; Stuttgart, 411,000; Bremen, 389,000.

Education. In 1947, there were in the U.S. zone, including the U.S. sector of Berlin, 11,802 elementary schools with 2,458,528 pupils; 603 secondary schools with 252,955 pupils; six universities with about 26,000 students. In all of Germany there were 23 universities at the end of 1948.

Production. The index of industrial production rose sharply in the bizonal area, following the

currency reform of June, 1948 (see under *Events*, below). In September, 1948, the index stood at 70 percent of the 1936 level, as compared with 53.6 in April, 1948, and 44 in November, 1947. Ruhr coal production reached 300,000 tons per day in October and 315,000 early in November, 1948. The output of ingot steel was 610,000 metric tons, and that of pig iron 509,000 tons in October, 1948. The harvest, in 1948, produced substantially higher yields than in the previous year. Total grain crops were estimated at 1,419,000 metric tons in the bizonal area, as compared with 5,397,000 tons in 1947. Of potatoes, 1,545,000 tons were harvested in 1947, in the combined zone. Livestock in the two zones numbered 8,851,000 heads of cattle, 4,384,000 hogs, 1,000,000 horses, and 27,567,000 poultry in June, 1948.

Foreign Trade. Exports for the first three quarters of 1948 were valued at \$377 million as compared with \$322 million for the entire year 1947 (bizonal area). Coal exports accounted for about 50 percent of the total export value in 1948. Imports into the bizonal area (including those classed as "non-commercial") totaled \$723 million in 1947. For the French zone, imports were valued at \$135 million and exports at \$131 million in 1947.

Government. Theoretically, the supreme authority in Germany is the Allied Control Council, which ceased, however, to function in 1948 (see *Events*, below). Since then the bizonal area (American and British zones, joined in 1946), the Soviet zone, and the French zone have been subject to the authority of their respective Allied commanders only. (For the administrative setup created after the German surrender in 1945, see *Year Book, Events* of 1947, p. 200.)

There are 16 *Länder* or states (4 each in the American and British zones, 5 in the Russian zone, and 3 in the French), each with its Cabinet headed by a Minister-President or corresponding chief executive. The status of Berlin is similar to that of a *Land*. Four-power rule in that city also came to an end in 1948 (see *Events*, below).

Events, 1948. More precisely than in the heyday of Hitler's power, debated and divided Germany held the world's attention in 1948. Once again, the eyes of fifty-odd peace-loving nations focussed on Berlin as the potential springhead of a new world war.

The division of Germany into two rival states, or groups of states, was all but completed during the year. In the west, a trizonal federation was taking shape, while in the east the Russian-occupied zone was welded into a compact instrument of future expansion. The schism reached and engulfed even the four-power-ruled city of Berlin, similarly dividing it into rival halves and turning it into a focus of discord for the entire world.

Military Government and Occupation. For the first time since the war, an early end to the Allied occupation of Germany loomed as a distinct possibility. Early in the year the Soviet-controlled German press began to beat the drum for a withdrawal of all occupying forces. In May, Stalin, in his reply to an open letter from Henry Wallace, declared himself in favor of an early peace treaty with Germany and an end to the occupation. The Warsaw Conference of eastern foreign ministers in late June followed suit. On September 21, the Red Army's mouthpiece in Berlin, the *Tägliche Rundschau*, set the time for a new propaganda drive aimed at the evacuation of Germany within one year after a peace treaty had been signed.

When it became apparent that the western Allies were cool to the idea, the Russians changed

their tack somewhat. At the end of October, they let it be known through German spokesmen that the Red Army was prepared to evacuate Eastern Germany even without a corresponding move by the western Allies. However, it was pointed out that as long as the western powers stayed in Berlin, the Russians would have to do likewise and that in this event they naturally would have to "guard their communications" between the U.S.S.R. and the Soviet garrison in Berlin. Thus by the end of the year it was evident that the Russian move was inspired mainly by propaganda reasons and would not amount to an effective withdrawal of all military forces, save perhaps in the event that the western Allies agreed to do the same.

Neither the Americans nor the French showed any inclination to follow the Russian lead in the matter. While the French were guided by their traditional policy of demanding a maximum of security measures against German aggression, the Americans' unwillingness to withdraw was based on the presence of large numbers of Communist-trained shock troops in eastern Germany which, it was felt, would make a quick end of the democratic institutions developed in the West.

On the other hand, Gen. Sir Brian Robertson, British Military Governor in Germany, expressed cautious approval of the idea of a general withdrawal from Germany, at a press conference in Berlin on October 27. "In abstract principle," he said, "I feel that a solution of that sort may well be the only means for resolving the differences to which Allied disagreements over Germany have led." The general made it clear, however, that such a solution could be envisaged only under conditions of real freedom for the Germans. They should not be allowed to fall under the domination of a "minority well organized and able to impose its will in defiance of the desire of the majority of the people."

The Germans themselves appeared to be swinging between a natural desire to manage their own affairs and fears of Communist subjugation. A public opinion survey conducted by the American Military Government in Berlin in October showed 51 percent of the city's population in favor of a general withdrawal of foreign troops. The Berlin City Council, in a declaration issued on September 27, formally called for such a move. "We urgently appeal to the occupation powers and to the world to withdraw the occupation troops from Berlin as part of an overall end of the occupation throughout Germany," the resolution read.

The German attitude was influenced in large measure by dissatisfaction with the high cost of occupation. German experts figured the cost, in the bizonal area, at 4,600 million marks in the fiscal year of 1946 and 4,900 million marks in 1947. In the French and Russian zones, the cost was substantially higher, comparatively speaking.

Pending agreement on a general withdrawal of occupation forces from Germany, the outlines of a so-called "occupation statute" were worked out in lengthy negotiations between German representatives from the three western zones and the American, British, and French military governments. Negotiations began in April and were concluded in late November. The statute, exactly defining the respective powers of the occupation authorities and the German organs of self-government in the West, was regarded as the forerunner of a "peace statute," which might have to take the place of a peace treaty in view of the apparent impossibility of settling the East-West differences in the near future.

Basically, the occupation statute, as drafted toward the end of the year, aimed at the establishment of German home rule in all branches of government except military and foreign affairs. It also provided for an almost complete fusion at the top of Military Government authority, substituting a tripartite control board to the hitherto independent authority of the three western military governors. On November 16, Gen. Lucius D. Clay, American Military Governor in Germany, announced that the occupation statute was "about 90 percent finished." A few points still at issue were to be resolved at government level.

End of the Control Council. Four-power rule of Germany, as defined by the Yalta and Potsdam agreements, virtually came to an end during the year. What little collaboration between the western military governments and their Russian partner had survived the mounting conflicts of 1947 broke down completely under the strain of the Berlin crisis (see below).

On March 20, the Soviet delegation dramatically walked out of what was to become the last meeting of the Allied Control Council in Berlin. Marshal Vassily D. Sokolovsky, at the time chairman of the Council, in a bitter statement assailed the western powers for destroying the quadripartite machinery by holding the London conference on Germany (see below), from which Russia was excluded. Under the circumstances, he declared, the Control Council "no longer exists as an organ of government."

From that day on, the Russians also boycotted the meetings of the Coordinating Committee and other subordinate divisions of the Council. The Berlin *Kommandantur* likewise lapsed into a coma. Realizing that the Russians could not be induced to come back, unless and until plans for the establishment of a West German state were cancelled, Gen. Clay made no move for reconvening the Council, when the chairmanship fell to him in April. After that, none of the powers concerned requested further meetings of the Council and none were held.

There were no major changes in personnel in any of the four military governments. Generals Clay, Robertson, Sokolovsky, and Koenig all retained their posts throughout the year. The position of Gen. Clay remained unshaken in spite of recurrent reports of disagreement between him and policy-making officials in Washington. The general's earlier expressed intention to retire from public service was apparently abandoned.

On January 27, it was officially announced that the State Department would take over from the Army all non-military aspects of the occupation. July 1, 1948, was set as the provisional target date for the transfer of power. But a few months later, on March 23, this policy once again was reversed, "following a review of the present situation." The Army remained in charge.

Western Germany: The Making of a State. When the London Conference, the second of the two Foreign Ministers' meetings on the German problem held in 1947, ended in failure in mid-December, as had the Moscow Conference earlier in the year, it became quickly apparent that the die was cast for the creation of a West German state. Although all hope was not abandoned for the eventual reunion of the four occupation zones under a common government, both the western Allies and the German leaders in their zones agreed that it was not possible to wait any longer for an agreement with the Russians. Western Germany, it was realized, could not be put back on its feet economically

without an administrative setup tantamount to a government, even though for various reasons it was not given that name.

As a first step, the American and British military governors on January 7 "proposed but not dictated" to the German Economic Council at Frankfurt and to the eight state governments of the combined zones the formation of a "Bizonal Economic Administration." The proposal was accepted by the Germans, after a number of minor concessions had been made to them on organizational issues.

Accordingly, by a charter proclaimed on February 6, the new Bizonal Economic Administration was organized. The legislative branch consisted of an enlarged Economic Council of 104 members elected by the eight state assemblies of the bizonal zone; and of a 16-man Council of States (two representatives for each state), roughly comparable to the U.S. Senate. The executive was made up of six members, headed by a chairman (*Oberdirektor*) without portfolio. At the same time a Supreme Court of ten, with headquarters at Cologne, was set up. Otherwise the seat of the new administration remained at Frankfurt.

On March 2, Dr. Hermann Puender, Lord Mayor of Cologne, a member of the Christian Democratic Union, was elected chairman of the new Administration, by a minority vote of 40 out of 96 (with 18 abstentions), of the Economic Council. His election was confirmed three days later by the Council of States and was approved by the military governments.

Meanwhile a new conference, concerned with the problems of western Germany only, had been held in London, without Russian participation. The conference, which lasted from February 23 to March 6, was attended by representatives of the United States, Great Britain, France, Belgium, The Netherlands, and Luxembourg. One of its principal purposes was to meet objections which had been raised by France and the Benelux countries in regard to the new governmental setup in western Germany, and to prepare the way for a merger of all three zones in the West. Preliminary agreement was reached on internationalization of the Ruhr, a federated form of government in western Germany protecting states rights, and an eventual fusion of the three zones.

The London conference was reopened on April 20 and was brought to a conclusion on June 1. Its recommendations, published on June 7, called for the establishment of a West German state with a federal constitution; control of the Ruhr coal, coke, and steel industry by an International Authority composed of the six nations represented at the Conference; and military guarantees by the United States, Great Britain, and France.

In Germany, the six-power recommendations met with a lukewarm reception. The proposed international regime for the Ruhr satisfied neither the owners nor the workers of the affected industries. Political leaders shied away from the responsibilities involved in collaboration with the western Allies in what the Communist press promptly labeled a "treasonable" undertaking.

For their part, the Russians and their satellites voiced emphatic protest. A hastily summoned counter-conference of the Soviet bloc (U.S.S.R., Poland, Yugoslavia, Czechoslovakia, Rumania, Bulgaria, Hungary, and Albania) met at Warsaw on June 23-24. A communique was issued berating the western powers for disregarding international agreements and dividing Germany. The Warsaw declaration called for reestablishment of four-power rule in Germany, including the Ruhr; for-

mation of a provisional government for all of Germany; and a peace treaty with that country, to be followed within one year by a general withdrawal of occupation forces. Unofficially it was reported that the conference had decided upon the establishment of an East German state as a counter-move to the West state planned by the United States, Great Britain, France, and the Benelux countries.

The recommendations of the six-power London Conference were embodied in formal proposals presented to the Germans by the three western military governors at a meeting in Frankfurt, on July 1st. The proposals called for a constituent assembly to be convened not later than September 1, state referenda on the constitution to be adopted, and the drafting of an "occupation statute."

On July 9 the Minister-Presidents, after a two-day conference at Coblenz, accepted the Allied proposals, but with certain reservations which were presented in writing on the following day. The gist of their reservations was that they did not wish to preclude the eventual formation of an all-German government by formalizing the provisional regime in the West with such terms as "constituent assembly," "government," and "state." This reluctance to call things by their proper names, while accepting their essence, was due to fears of being branded as "quislings" by the eastern zone Communists and their "People's Council" (see below).

Instead of a constitutional assembly, the Germans proposed to call a "parliamentary council" for the purpose of "drafting a basic law for the uniform administration" of the three western zones. The western military governors, though disappointed at the Germans' overcautious attitude, yielded on this question of semantics, and the Germans withdrew some of their other objections.

On July 22 the Minister-Presidents announced that they were ready to proceed in accordance with the powers delegated to them. Two committees were set up, one to prepare the draft of a basic law for presentation to the Parliamentary Council, the other to deal with proposed state boundary changes.

The Constitutional Committee, composed of 22 representatives of the eleven states of the western zones met on August 10 at Herrenchiemsee, an island chateau in a lake near Munich. Its deliberations resulted in a draft constitution completed on August 22. The project envisaged a federal republic with a bicameral system of legislature (*Bundesrat* and *Bundestag*) and a fairly strong central authority headed by a federal president. Also in August, the Committee on State Boundaries agreed to propose that the three southwest German states of Wuertemberg-Baden, South Wuertemberg, and South Baden should be combined into a single territorial unit.

On September 1, the Parliamentary Council met, as scheduled, in the Rhenish city of Bonn to pass on these proposals. Elected by the eleven state assemblies, on the basis of one delegate for each 750,000 persons, the Council consisted of 65 members, including 27 representatives of each of the two major parties, the Social Democrats and the Christian Democratic Union.

After many weeks of strenuous committee work and at times heated argument, which revolved primarily around the issue of states rights vs. federal authority, the outlines of the Bonn Charter began to emerge in mid-October. A Bill of Rights, including habeas corpus and the fundamental freedoms on the American model was adopted on Oc-

tober 9. Final organization of the new state, for which the name *Bundesrepublik Deutschland* was provisionally chosen, and of its administration was expected by January or February, 1949. On October 18, an almost complete economic merger of the three western zones was announced as the first formal step toward the establishment of "Trizonia."

The Currency Reform. Meanwhile, in the economic field, an event of utmost importance had taken place, which was to have far-reaching repercussions not only on all German affairs but also in the field of great power relationships and on world peace.

After many a false start, and heated debate of all pros and cons, followed by months of indispensable psychological preparation, the long-awaited currency reform finally took place in mid-summer. It was carried out simultaneously, but not jointly, in the western zones and in the Russian zone, creating conditions which at times bordered on financial chaos, but nevertheless paving the way for spectacular economic recovery.

Prior to this reform, hoarding of foodstuffs and consumer goods had been general among manufacturers, farmers, and the public, despite stringent price and production controls. Black markets and profiteering were rampant, and widespread misery ensued.

In western Germany, the currency reform was carried out in four stages. First, on June 18, it was announced that the old *Reichsmark* would become invalid, effective June 21, and would be replaced by a new currency, called *Deutsche Mark* or *DM*. Each inhabitant of the western zones was allowed to exchange 60 old marks for an equal amount of new ones, the remainder of his holdings being frozen. A second law, issued on June 21, granted to the newly organized "Bank of the German States" in Frankfurt the exclusive right to issue banknotes and coins in the new currency for the three western zones (the original amount of *DM* paper money needed for the reform had been printed in the United States and shipped to Germany several weeks earlier). On June 26, a third law proclaimed a conversion rate of one new mark (*DM*) for ten old ones (*RM*) for all holdings and obligations, except the initial "head quota" of 60 marks. However, only one half of the money left to each individual or firm after this drastic cut was transferred to a "free account," while the other half remained blocked for three months. A fourth currency law, on October 1, wiped out seven-tenths of the blocked accounts, thus in effect increasing the cut from the original 1:10 to a ratio of 1:16 for cash and bank holdings.

As soon as the first announcement of the currency reform in the West had been made, the Russians followed suit. As a first step, Marshal Sokolovsky, on June 19, issued a proclamation forbidding the entry and circulation of the western *DM* into the Soviet zone, including Berlin. This edict marked the beginning of the all-out Berlin blockade (see below). On June 24 an eastern zone currency reform went into effect, also at a 10:1 ratio, except for a slightly larger "head quota" (70 marks) and certain alleviations in favor of small holders. The Soviet zone currency reform was concluded on July 24 with the introduction of a new money, also called *Deutsche Mark* and issued by the *Deutsche Notenbank* in Potsdam, which had been organized specifically for this purpose.

Needless to say, the more or less simultaneous introduction of two new currencies with the same name, and both seeking circulation in four-power controlled Berlin created an enormous confusion,

which was enhanced by the innumerable technicalities of the double-headed reform. From the first day, "East Mark" and "West Mark" engaged in a battle for supremacy, easily won by the latter. By October, the exchange rate of the East Mark had fallen to 3.20 for one West Mark.

Although accompanied by much confusion and bitter hardship, especially to small rentiers, the western currency reform proved on the whole successful. It brought out long-hoarded goods and, aided by the good harvest, put an end to the worst food shortages; it also gave a tremendous impetus to industrial production (see *Production* above). Throughout the western zones there was a noticeable upswing in individual initiative and enterprise. As living conditions improved, so did labor efficiency and public morale. The widespread unemployment which had been predicted by some economists failed to materialize.

However, the haste of the Frankfurt regime in removing price and rationing controls had an untoward effect. In October and November, prices went up by leaps and bounds, threatening the new currency with the possibility of another runaway inflation. Labor was aroused and on November 12, a one-day general strike was called by the unions in protest against high prices.

The Berlin Blockade. Whatever its final results in the economic field might be, the currency reform caused a sharp deterioration in international relations. It brought the Berlin crisis, which had been brewing ever since the breakdown of the Control Council, to a sudden head.

More or less stringent highway and railroad restrictions, designed to make the position of the western Allies in Berlin uncomfortable and eventually squeeze them out of the city, had been initiated by the Soviet authorities as early as April 1. But it was not until June 24 that the Russians clamped an iron-clad blockade on Berlin by halting all rail traffic from and to the western zones, after having previously suspended road and water transportation into the city. At first the Soviets did not openly concede that their blockade of the western sectors of Berlin was a political move, designed to drive the Americans, British, and French out of Berlin or to force them to abandon their plans for western Germany. Instead, they pleaded "technical" difficulties of all sorts and the necessity to protect the economic life of their zone against alleged ill effects from the smuggling of West Marks into it. But as the months passed, and the technical excuses became ever more threadbare, all the world understood that the clash over the question which currency should circulate in Berlin was little more than a handy pretext for starting the all-out blockade and that the real stake in the contest was predominance in Germany.

From the first day of the blockade, the western Allies let it be known that they would not yield to the Soviet pressure but would stand firm on their rights. Secretary of State Marshall, on June 30, keynoted this stand with a "no surrender" speech in Washington. On July 6, the United States, Great Britain, and France, in similar notes, formally demanded that Russia lift the blockade.

Meanwhile the spectacular "airlift" had begun to operate, increasing from month to month in scope and achievement. In order to relieve the inevitable shortages inflicted by the blockade upon the population of the western sectors, American, British, and French cargo planes, carrying every necessity from foodstuffs to coal, daily delivered huge loads of airborne supplies to the city. By the end of October, more than half a million tons had

thus been flown in by the combined western air forces.

On July 14, Moscow flatly rejected the western powers' protests and indicated that the siege of Berlin would be lifted only if the western powers agreed to reopen negotiations on the whole German question. A beginning towards such negotiations was made on July 31, when the envoys of the western powers in Moscow called on Foreign Minister Molotov with proposals to settle the Berlin dispute. On August 2, the same envoys met with Premier Stalin at the Kremlin, giving rise to worldwide hopes of an early settlement. More meetings with Molotov and Stalin followed and on August 27 the outlines of a solution emerged under which Russia would lift the blockade in exchange for recognition of the East Mark as the sole currency for Berlin.

Yet, when the military governors met in Berlin on August 31 to implement the Moscow decisions, they were unable to reach agreement on practical measures and the dispute was back where it had been before the Kremlin talks. After another futile appeal to Moscow, the western powers on September 29 referred the case to the United Nations. It was taken up by the Security Council and, after a futile attempt at mediation by the six "neutral" members of the Council, was brought to a vote on October 25. The Council, by a vote of 9 to 2, approved a resolution calling for an immediate end of the blockade and new talks between the military governors with a view to introducing the East Mark in all of Berlin. Russia vetoed the resolution on the grounds that the currency situation must be straightened out before the blockade could be lifted. An attempt by UN Secretary General Trygve Lie and the President of the General Assembly, Herbert Evatt, to break the stalemate by a direct appeal to the powers concerned proved fruitless. Then Argentine Foreign Minister Juan A. Bramuglia, President of the Security Council, took a hand. After long negotiations, which lasted through November, he obtained agreement in principle on the appointment of a commission of experts to study application of the currency reform in Berlin on the basis of the Moscow directive of Aug. 30, 1948.

Meanwhile, however, new and serious complications were shaping up in Berlin. On November 30, the Communists seized the Berlin City Hall, in the Soviet sector, "deposed" the administration elected in December, 1946, and proclaimed Fritz Ebert, Jr., son of the late Reich president, as the new mayor, while the lawful city government withdrew into the western sectors.

The Eastern Zone. Political developments in the Russian zone of Germany, in 1948, mostly hinged on the creation of a comprehensive governmental setup susceptible of being extended, at short notice, to all of Germany.

One of the most important measures taken by the Soviet Military Government in this respect was the establishment of the German Economic Commission (DWK). This body was first organized in June, 1947, as the Soviet reply to the German Economic Council at Frankfurt. It was designed to coordinate the activities of the five state governments of the zone and of the 14 "central administrations" in Berlin, which frequently had been working at cross purposes.

In its original form, the DWK did not work out. Its executive powers were limited and its machinery was hampered by the requirement of a unanimous vote of its seven members. For eight months, the organ led a shadowy existence, while the east-

ern zone economy showed signs of disintegration.

On Feb. 13, 1948, Marshall Sokolovsky issued Order No. 32 which completely reorganized the DWK. The Commission was granted almost unlimited powers in the economic field, with authority to override the state governments. The central administrations, with few exceptions, were dissolved and turned into subordinate agencies of the DWK. The membership of the Commission was broadened to 25 and the prerequisite of unanimity was dispensed with. On March 10, the Commission elected Heinrich Rau, a hitherto little-known Communist who had been Minister of Economic Affairs in the Brandenburg State Government, as its chairman.

In the following months, the DWK took a number of sweeping measures designed to put the eastern zone economy on an even keel. In April, the socialized sector of industry (the so-called "people-owned plants") was declared inalienable and was consolidated into large combines on a zonal basis. A Commission for the Protection of People's Property was set up, which in October and November carried out drastic purges especially in the textile industry of Saxony. According to official figures made public in July, eight percent of the zone's industrial enterprises, representing 40 percent of the total output volume, had been socialized at that time.

On July 1, a Two-Year Plan, designed to raise the over-all level of industrial production to 81 percent of the 1936 output, by the end of 1950, was announced. Vast increases in pig iron and steel production figured among the principal targets of the Plan. In spite of all efforts of the planners, and numerous efficiency drives organized during the year, production in the eastern zone in 1948 showed no signs of appreciably climbing beyond the 60 percent level (of 1936 standards) already attained in 1947.

Meanwhile, on the political front, a "national unity" maneuver in the grand manner unfolded. In December, 1947, a so-called "People's Congress," ostensibly representing all "democratic" parties of the eastern zone, but in fact wholly controlled by the Socialist Unity Party, i.e. the Communists, convened in Berlin. At a second meeting, in March, 1948, the Congress gave birth to a 400-man "People's Council," which constituted itself as a provisional parliament for all of Germany, including the western zones.

On March 18,—centennial anniversary of the 1848 Revolution—the Council elected a ten-man executive organ (*Präsidium*) headed by Wilhelm Pieck, Otto Nuschke, and Wilhelm Kuehl (after the latter's death, on April 10, Hermann Küstner took his place). From the first this executive agency of the People's Council quite openly aspired to be regarded as an unofficial central government for Germany.

One of its most spectacular acts was the organization of a referendum on a petition to the four Allied Military Governors to respect the "indivisible" unity of Germany. The referendum was held in the days from May 23 to June 13. It yielded the inevitable 95-96 percent of favorable votes in the Soviet zone, the only one where it was permitted. The three western military governments ignored it, as they did with the People's Congress and the People's Council in general.

A committee entrusted by the People's Council with the task of preparing a draft constitution for Germany completed its labors on October 21. The draft was presented at the fourth plenary session of the People's Council, October 22-24. Based by

and large on the old Weimar Constitution, except for a stronger emphasis on Socialism, it differed from the Bonn charter (see above) especially by its centralistic character.

The Ruhr Problem. Next to the Berlin fracas, the question of what to do with the Ruhr was the principal German issue of the year. To the French, it was a matter of far more absorbing concern than Berlin. The Paris government was thoroughly aroused when the American and British military governors on November 10 issued an ordinance returning the coal, iron, and steel industries of the Ruhr to German ownership. Under this order, German trustees were to administer the industries, under Allied supervision, pending ultimate decision on the question of ownership by a freely elected German government. A formal protest against this move was immediately lodged by French Foreign Minister Robert Schuman, who reiterated the French view that the question of Ruhr ownership should be decided by all "interested powers."

The dispute cast a shadow on the third six-power conference on the Ruhr which opened on November 11 in London for the purpose of drafting a statute for the International Ruhr Authority decided upon in principle in June (see above). While, in the American-British view, the Authority should exercise supervisory functions and regulate the allocation of the Ruhr industries' output during the control period only, the French would give it permanent status. Eventually a compromise was worked out and on December 28 a draft agreement establishing the "International Authority for the Ruhr" was announced.

War Crimes. See WAR CRIMES TRIALS.

—JOACHIM JOESTEN

GIBRALTAR. A British colony and fortified naval base at the western entrance to the Mediterranean. It comprises a narrow peninsula which includes a long mountain called the "Rock." There is a deep-water Admiralty harbor with an area of 440 acres, containing three graving docks. Area, $1\frac{1}{2}$ square miles. Total fixed population (Jan. 1, 1947): 21,233. The supply of fuel and provisions to ships and the transit of goods to Spain and Morocco form the chief trade of the port. In 1946 revenue totaled £545,325; expenditure £751,630. The governor is assisted in the administration by an Executive Council of seven members. Governor and Commander-in-Chief: Lt. Gen. Sir Kenneth A. N. Anderson (assumed office Mar. 21, 1947).

GILBERT AND ELLICE ISLANDS. A British island colony in the Pacific, comprising the Line Islands and the Gilbert, Ellice and Phoenix groups. Total area: 312 square miles. Population (1940): 34,202. The islands, with the exception of Ocean Islands, are coral atolls. The natives are chiefly Polynesians and Micronesians; there is no linguistic similarity between the Gilbert and Ellice groups. Chief crops are pandanus fruit and coconuts. Phosphate of a high quality is present on Ocean Island. Foreign trade (1945-46): imports £45,215; exports £53,140. Finance (1946): revenue £287,281; expenditure £226,561. The High Commissioner for the Western Pacific administers the colony through a resident commissioner with headquarters on Ocean Island. Resident Commissioner: H. E. Maude.

GLASS AND GLASSWARE. The value of total glass output in the United States during the first eleven months of 1948 was estimated at \$710,150,000, a gain of approximately eight percent over comparable 1947 figures. The number of persons employed

in the glass industry during the year roughly equaled that of 1947 but annual payroll totals showed an increase of approximately two percent. This was accounted for by wage increases agreed upon by labor and management in various divisions of the industry.

Chief contributor to over-all production gains was the flat glass industry which, to meet record demands of building construction and automotive production, hit peak figures in the production of polished plate glass, window glass, and safety glass. Glass container production, in spite of a concerted effort on the part of manufacturers to regain war-year markets, was more than ten percent below 1947 totals. Increasing public acceptance, however, of "one-way," non-returnable bottles for beer, soda, milk, etc. was foreseen. Pressed and blown table glassware production also fell below that of the previous year and, as a result, an active consumer publicity campaign was begun to promote American-made ware.

The three-and-a-half-year-old government anti-trust suit against eight major flat glass companies was ended in November by consent decree. The companies involved were permitted to retain all their plants but were placed on probation for three years, at the end of which divestiture will be ordered if full competition has not been restored. By another provision of the decree, 187 flat glass patents were made available to the public on a royalty-free basis and 733 other patents were licensed on a reasonable royalty basis.

Among the technical advancements in the glass industry in 1948 was the development, under the direction of Dr. Alexander Silverman of the University of Pittsburgh, of a new type of glass containing 20 percent tungsten. The product is expected to be of considerable value in atomic research work, offering unrestricted visibility while filtering out harmful rays emitted by radio-active materials. Another development was that of a special glass for use in face plates of television picture tubes. Improvement of methods of production of these tubes permitted a sharp increase in output and gave promise of an ever-expanding field for glass manufacture.

European production of glassware continued to improve as war-crippled factories gradually swung back into operation. Major problems still faced by factories in England, France, Belgium, Czechoslovakia and other countries were fuel shortages and a scarcity of skilled glass workers. In Japan, production of sheet glass in 1948 approximately doubled 1947 figures. Steps were taken toward alleviating the severe glass shortage in Australia with the construction of two large domestic glass furnaces, one at Sydney and the other at Melbourne. A new furnace with a capacity of eight metric tons of glass began operation at Guadalajara, Mexico. (See CERAMICS.)—DONALD DOCTOROW

GOLD. World production has fallen off in postwar years due to rising labor and other production costs that squeeze operators in a market dominated by the U.S. Government buying price of \$35 per fine oz. The Bank for International Settlements estimated 1947 production by all countries, including the U.S.S.R. whose statistics are not released, at 27.7 million oz., which may be compared with the 1940 peak of 40.9 million oz. Last year's output is expected to be even lower.

In 1947, the Union of South Africa continued as the largest producer, with 11,198,000 oz. The Soviet Union was second, with production estimated at 4 to 5 million oz.; Canada third, with 3,069,476

oz.; the United States fourth, with 2,109,180 oz.; Australia fifth, with 937,556 oz.

Domestic mine production in 1948 was reported by the Bureau of Mines to be 2,001,380 oz. Utah, in which gold mining is a by-product of copper production, was edged out by California as the leading gold-producing State due to a year-end strike at the Bingham Canyon, Utah, copper mine. South Dakota was second.

United States Treasury gold holdings reached a record high of \$24,230 million on December 15, estimated at about 64 percent of total world monetary reserves. Gold continues to flow into this country to pay for exports from the United States, supplementing postwar United States loans and Economic Cooperation Administration grants to foreign nations. The principal shippers of gold to the United States were Great Britain, the Union of South Africa, and Belgium. As the result of the flow of gold and limited production, the reserves of many nations are perilously near the danger point.

Gold stocks in most countries were held largely or entirely by central banks or treasuries for monetary reserves. But there were still some free, semi-free, and black markets for gold. The principal ones being Bombay, Hong Kong, Alexandria, Lisbon, Paris, Tangier, Switzerland, and Italy. In the United States, gold can be held by individuals only if it has not been melted, smelted, chemically treated, or otherwise refined. Trade in placer-mined gold, 80 to 90 percent fine, at prices equivalent to \$40 to \$42 per fine oz., as a hedge against inflation was reported in the United States.

—JOHN ANTHONY

GOLD COAST. A British colony in West Africa, along the Gulf of Guinea. Attached to the Gold Coast for administrative purposes are Ashanti, Northern Territories, and the United Nations Trust Territory of Togoland. Total area, including the attached territories: 91,843 square miles. Total population (1948 census): 4,095,267. Chief towns: Accra (1948 census) 135,456, Kumasi 47,054, Sekondi 23,847, Tamale 21,303, Cape Coast 20,242, and Koforidua 15,307. Education (1946-47): 21 government and 557 aided schools with 90,508 pupils; 2,175 unaided schools with 110,880 pupils. There is also a government technical school and a college.

Production and Trade. The country grows sufficient food for domestic needs and the government is making serious attempts to increase cultivation of staple food crops and to introduce new ones. Cocoa is the principal export crop (1947-48 crop est. 200,000 tons), followed by oilseeds, vegetable oils, rubber, copra, ginger, and palm kernels.

Mineral production (1947; 9 months): gold, 468,569 fine oz. troy valued at £4,035,559; manganese ore, 485,890 dry tons valued at £1,821,265; bauxite, 81,035 tons valued at £259,312; diamonds, 474,713 carats valued at £456,157. All of the gold mined is exported to the United Kingdom, as is nearly all of the bauxite and the diamonds.

All timber comes from the Closed Forest Zone which covers about 28 percent of the total land area. Total timber production for the year ended Mar. 31, 1947, amounted to 172,265,100 solid cu. ft., valued at £1,175,000. Of the total log export of 4,093,677 cu. ft., mahogany accounted for 80 percent. There were 13 sawmills in operation in 1947, and two under construction. During the year legislation was passed establishing the Gold Coast Industrial Corporation. Its purpose is to establish

secondary industries based on the country's agricultural output and to set up pilot plants. Trade (1947): total imports £25,453,661; total exports £20,779,154.

Transportation. There were 614 miles of government-operated railroad in 1947. Total mileage of all kinds of roads was 7,955, of which 2,629 miles were all-weather roads. Accra is the West African terminus of the trunk air route between Great Britain and West Africa. In 1947, Accra was made a stop on the Pan American Airways run between New York and Johannesburg, and there are two weekly flights each way.

Government. Finance (1946-47): revenue £9,850,177, expenditure £8,009,655. On Mar. 31, 1947, the public debt amounted to £8,410,000. The Gold Coast is administered by a governor, assisted by an executive council, and a legislative council of 18 elected members and 12 official and nominated members. Under the new constitution which became effective Mar. 29, 1946, the Gold Coast is the first British African colony to be granted an unofficial African majority in the legislative council. Governor: Sir Gerald Creasy (assumed office Jan. 13, 1948).

GOLF. Little Ben Hogan, Texas-born star who plays out of Hershey, Pa., proved the biggest man on the links in 1948 and was named "Goller of the Year" by the Professional Golfers' Association. Winning six straight tournaments from June 10 through August 22, Ben practically spread-eagled the pro field and closed the Summer season with victories in 9 of the last 16 tournaments in which he competed.

After winning the national P.G.A. championship in May, the Texan annexed the national open in June, thereby accomplishing a feat which had not been achieved since 1922, when Gene Sarazen turned the trick of winning both the prized titles in the same year.

Hogan captured P.G.A. laurels by routing Mike Turnesa of White Plains, N.Y., 7 and 6, in the final at the Norwood Hills Country Club in St. Louis, but his greatest triumph came in June at the Riviera Country Club at Los Angeles, where he shot a 276 to break the U.S. open record by five strokes. Jimmy Demaret of Ojai, Cal., was runner-up with 278 and Jim Turnesa of Elmsford, N.Y., finished third at 280.

Among Hogan's other major triumphs were the Motor City open at Detroit; the Western open championship, in which he defeated Ed Oliver of Seattle, Wash., 64-73, in a play-off; the Denver open; the Reno open; and the Glendale open.

The race between Hogan and Lloyd Mangrum of Chicago for top money laurels held the interest of fans most of the year. Within a week in August, Mangrum captured more than \$20,000 in prizes at Chicago, taking the All-America open with a 277, then winning a special winner-take-all award of \$10,000 in a match with the 12 leading pros over the Tam O'Shanter links. Mangrum carded 70 in a play-off to conquer Dutch Harrison and Sammy Snead after a three-way tie at 135 for 36 holes.

On over-all money earned Mangrum was first with \$45,898 and Hogan second with \$36,812. However, Hogan was top man in P.G.A. contests with \$32,112 with Mangrum a close pursuer with \$31,289.99. Hogan also won the Vardon Trophy with a P.G.A. stroke average of 69.3.

American stars fared badly in the British open championship at Muirfield, Scotland, in July, Henry Cotton capturing the honors for the third time with a 284, leading home Fred Daly, Ireland's titleholder, by five shots. The best of the U.S. dele-

gation, Johnny Bulla of Phoenix, Ariz., scored 291, for seventh place.

However, it was a different story in the British amateur, when Frank Stranahan of Toledo took the crown by routing Charles Stowe of England, 5 and 4, in the final at Sandwich, England, in May. Stranahan, one of the top amateurs of the year, retained his Canadian amateur title by beating Joe Stoddard of Hamilton, 9 and 7, and led the simon-pures in the All-America open with a 283. Charles Congdon of Tacoma, Wash., won the Canadian open with a 280.

The U.S. amateur championship went to a member of the famous Turnesa family when Willie defeated Ray Billows of Poughkeepsie, N.Y., 2 and 1, in the final at Memphis, Tenn., in September. The Masters' tourney at Augusta, Ga., in April was won by Claude Harmon of Mamaroneck, N.Y., who posted 279 to tie the tourney mark set by Ralph Guldahl in 1939.

Honors among the women golfers were divided by several competitors. However, Louise Suggs of Atlanta, and Grace Lenczyk of Hartford, Conn., were consistently in the headlines. Miss Suggs gained her most sparkling triumph in the British championship at St. Anne's-on-Sea in June, defeating Jean Donald, one up, on the thirty-sixth green. Among her other major conquests was a victory in the North-South tourney in which she halted Miss Lenczyk. She also helped the United States conquer Britain's squad to retain the Curtis Cup. Miss Suggs joined the pro ranks in July.

Miss Lenczyk repeated her victories of 1947 in the Canadian amateur and United States intercollegiate championships and succeeded Miss Suggs as U.S. amateur queen. The Connecticut star took the national crown by defeating Helen Sigel of Philadelphia, 4 and 3, at Pebble Beach, Cal., in September. She also led the amateur ladies in the U.S. open and was a member of the Curtis Cup squad.

U.S. women never have been defeated in Curtis Cup play and the 1948 team won by $6\frac{1}{2}$ to $2\frac{1}{2}$.

Patty Berg, Minneapolis pro, Mrs. Mildred (Babe) Didrikson Zaharias of Ferndale, N.Y., and Miss Riley were other stars of 1948. Listed high among Miss Berg's achievements were first prizes in the Western open and the Augusta titleholders' tournament. Mrs. Zaharias captured the U.S. women's open with a 300 and the All-America open with 309. Miss Riley triumphed in many big events including the Florida East Coast, Trans-Mississippi and Texas open tourneys, her victory over Mrs. Zaharias by 10 and 9 in the Texas final being one of the season's surprises. —THOMAS V. HANEY

GOVERNMENT PRINTING OFFICE, U.S. (GPO). The Government Printing Office was created by Congressional Joint Resolution 25, June 23, 1860. A then-existing commercial printing plant was purchased for \$135,000, under an appropriation made Feb. 18, 1861. Possession was taken Mar. 4, 1861, and the office was named the Government Printing Office. It is now the largest and best-equipped printing plant in the world. The activities of the Government Printing Office are outlined and defined in the Printing Act of Jan. 12, 1895, as amended (28 Stat. 603; U.S.C. Title 44).

Purpose. The Government Printing Office executes orders for printing and binding placed by Congress and the departments, independent establishments, and agencies of the Federal Government; furnishes, on order, blank paper, inks, and similar supplies to all Governmental activities; distributes Government publications as required by

law, and maintains necessary catalogs and a library of these publications; prints, for sale to the public, such documents as are not of a confidential nature.

The total area occupied by the Government Printing Office proper in 1948 was 1,396,973 square feet or 32.1 acres. During the fiscal year 1948, it was necessary to place orders with outside contractors for printing in the amount of \$8,672,839.28, as the Government Printing Office was unable to handle the volume of printing ordered. The value of the office buildings in 1948 was \$11,948,735; machinery and equipment, \$7,108,697; making the total value of the plant \$19,057,442. During the fiscal year 1948, there were 6,894 employees on the rolls with a payroll of \$23,502,632. The office made charges for 576,884,848 copies of publications of all classes. This total included 6,467,453 copies of the Congressional Record, 3,563,573 copies of the Federal Register, 3,440,778 copies of specifications of patents, trademarks, designs, etc., and 371,501 copies of the Patent Office *Official Gazette* and annual indexes. The number of postal cards printed amounted to 3,815,964,000 and money orders, 303,803,650. The Stores Section and warehouses handled 2,386 carloads of paper, weighing 116,653,853 lb. The Division of Public Documents mailed out 121,338,654 publications; its receipts from the sale of Government publications during the year amounted to \$3,233,395. The total charges made to Congress and all other Government agencies during the fiscal year were \$55,088,399. —JOHN J. DEVINY

GREAT BRITAIN. Official designation for the political union embracing England, Scotland, and Wales. Great Britain, together with Northern Ireland, the Isle of Man, and the Channel Islands, forms the United Kingdom of Great Britain and Northern Ireland. For statistical purposes the Isle of Man and the Channel Islands are included under Great Britain. Capital, London. See IRELAND, NORTHERN.

Area and Population. The area of Great Britain, the census population of 1931 and the estimated civilian population in June, 1947, are shown in the accompanying table.

Divisions	Area in sq. mi.	Population	
		1931	1947
England*	50,874	37,794,008	43,270,000
Wales	7,466	2,158,374	
Scotland	30,405	4,842,980	5,139,000
Isle of Man	221	49,308	140,000
Channel Islands	75	93,205	
Total	89,041	44,937,444	48,549,000

* Including Monmouthshire. † 1941 estimates.

The density of the population in 1947 was 742 per square mile for England and Wales. Chief cities: London (capital), 8,244,370 inhabitants; Glasgow, 1,106,000; Birmingham, 1,097,900; Liverpool, 769,170; Sheffield, 514,290; Leeds, 498,650; Edinburgh, 487,200. In 1947 two population records were set: the birth rate of 20.5 per 1,000 was the highest in 26 years and the infant death rate of 41 per 1,000 was the lowest on record.

Education. Elementary education is provided free throughout Great Britain. Under this heading are included large numbers of schools providing secondary education. The Education Act of 1944, which came into force on Apr. 1, 1945, raised the school-leaving age for all children to 15 immediately, and to 16 as soon as more schools could be built. Secondary education was made compulsory for all, and children leaving school at 16 were required to attend special County Colleges several

hours a week in their employers' time. In Scotland all forms of post-primary education up to 18 are provided free, except in a few schools. The "public" (endowed) schools of England are outside of the state system.

There are 11 universities in England, four in Scotland, and one in Wales. Total university enrolment in 1947-48 was 78,440 in England and Wales. Enrolment in primary and secondary schools in January, 1947, was 5,340,091. The number of students released during working hours by their employers in 1946-47 was 167,403.

Religion. The Church of England, with a Protestant Episcopal form of government, and the Church of Scotland (Presbyterian) are the established churches of the respective countries. In Wales the church was disestablished in 1920. The leading denominations in England and Wales, in order of membership, are Church of England, Roman Catholic, Methodist, Congregationalist, Baptist, and Calvinist Methodist.

Production. Great Britain is a predominantly manufacturing country, with iron and steel and their manufactures and textiles the leading industries in value of product. Manufacturing employed almost 7 million persons in 1948, of whom 1 million were in general engineering and engineers' iron and steel founding. The index of industrial production in mid-1948 (1946 = 100) was 122 for all industries, 127 for building and contracting, 124 for manufacturing, and 111 for mining and quarrying. Steel production in November was at a new annual record rate of 15,756,000 tons, compared with 14,174,000 tons in 1947. Cotton yarn, cotton textiles, and woolen textiles in mid-1948 were above the 1947 averages. Coal production was close to the 1947 figure of 187 million tons of saleable deep-mined coal.

Although only a small fraction of the people live on the land, Britain was producing about one-half of her food supply in 1948, as against one-third before World War II. The number employed in agriculture in June, 1948, was about 850,000. The acreages of the main crops in 1948, in order of size, were those of oats, wheat, barley, and potatoes. Harvests of cereals in 1948 were above the 1947 figures. Food consumption, in calories, was about 2,700 per person, as against 2,880 in 1947 and 3,000 in 1939.

The merchant ship tonnage under construction in June, 1948, was 2,041,000, surpassing the figures for 1947, when more than half of the world's merchant ship tonnage under construction was in Great Britain and Northern Ireland.

Foreign Trade. In the first half of 1948 Britain's total deficit on overseas payments was at an annual rate of £280 million, well under half the 1947 figure. The excess of British commodity imports over commodity exports was at the annual rate of £312 million, compared with £438 million in 1947. The deficit of £192 million in invisible trade in 1947 was replaced by a small surplus in the first half of 1948. In spite of the rise in dollar prices the British deficit with the Western Hemisphere was reduced to the annual rate of £390 million, or £280 million less than in 1947, which was a year of disastrous strain on British reserves.

Machinery, vehicles (which overtook textiles in the fourth quarter of 1947), and textiles were the leading exports in the first half of 1948. Two-fifths of all imports were food and tobacco, with all other classes relatively small. Oil, seeds, and fats were in second place and manufactured oil and resins in third. Total imports for the first 6 months of 1948 were £1,026 million, as compared with £820

million and £460 million in the corresponding periods of 1947 and 1938 respectively.

Transportation. The state-owned British railways (Vesting Day Jan. 1, 1948) had 52,178 miles of track in 1947. Traffic receipts in 1947 were £5,738,000 weekly. The London Passenger Transport Board owned 188 miles of railway in 1947. About 2,400 miles of canals and locked rivers were in use in 1948. Tonnage entering British ports in 1947 was 42,700,108 and total clearances 24,008,548 net tons. British civil airlines flew 3,286 miles monthly in 1947 and carried almost 600,000 passengers in that year.

Finance. For the financial year 1947-48 revenue exceeded expenditure by £658 million. The budget estimates for 1948-49 provided for revenue of £3,765 million; expenditure of £2,970 million; a surplus of £789 million. In the 1948-49 budget (Apr. 6, 1948) a graduated tax of 10 to 50 percent, payable Jan. 1, 1948, was laid on investment income, and concessions were made to low-income taxpayers. The national income in 1947 was estimated at £8,770 million.

Government. The United Kingdom of Great Britain and Northern Ireland is a limited monarchy with an unwritten constitution, under which final legislative, judicial, and administrative authority is vested in a Parliament of two houses, acting through a Cabinet drawn from its members. Parliament is the supreme legislative authority in the territories held by the United Kingdom, except for the self-governing dominions.

The upper house, the House of Lords, consists of 844 peers. These include 26 bishops, 16 Scottish representative peers, 8 Irish representative peers, and several lay lords who hold life peerages only, as well as the large body of hereditary peers. Since 1911 the power of the House of Lords in matters of legislation has been severely limited, and in 1948 further limitation was voted; but it remains the highest court of judicature. The lower house, the House of Commons, consists of 640 members elected by universal suffrage on the basis of one member for every 70,000 of the population. The maximum duration of Parliament is five years.

In July, 1945, as the result of the first general election since 1935, the wartime Coalition (largely Conservative) Government was succeeded by a Labour Government with an absolute majority in the House of Commons. The standing of the chief parties after the 1945 election was as follows: Labour, 393; Conservative, 189; Liberal, 12; Liberal National, 13; Independent, 14.

Sovereign, King George VI, who succeeded to the throne upon the abdication of Edward VIII on Dec. 10, 1936; Prime Minister, Clement R. Attlee (Labour); Secretary of State for Foreign Affairs, Ernest Bevin (Labour); Chancellor of the Exchequer, Sir Stafford Cripps (Labour); Leader of the Opposition, Winston Churchill (Conservative).

Events, 1948. Britain's domestic situation improved perceptibly in 1948 and furnished encouraging contrasts to the economic calamities of 1947. Industrial production as a whole increased, the agricultural outlook improved, the deficit in foreign accounts was diminished, and economic planning was given precision by the requirements of the European Recovery Program. At the same time the disturbed situation on the Continent and in Asia required increased defense precautions and the continued austerity at home insulated the majority of the people from any personal benefit from the accelerated national effort.

Economic Gains. By June, 1948, manufacturing

production was 15 percent above 1947 and 25 percent above the prewar level; exports were gaining steadily; and, although imports were also rising, the gap was narrowing so rapidly that the Chancellor of the Exchequer was able by September 16 to congratulate the British people on a "really fine effort." Nevertheless a dollar deficit still existed at the end of the year, and no way was in sight by which Britain could revive net income from foreign investments and other services in order to cover the import surplus.

The last of the American credit of \$3,750 million, which had been expected to cover the external deficit for four or five years, was used in March, 1948, at the end of 20 months. At about the same time the *Economic Survey for 1948*, the annual Government White Paper which sets forth the country's problems and program, estimated Britain's declining dollar reserves at £450 million by July 1, 1948; £225 million by December 31; and nil at a later time in 1949.

Marshall Plan Aid. This forecast took no account of Marshall Plan aid, which at that time was not wholly certain. The Foreign Assistance Act signed by President Truman on April 4 gave Britain a welcome respite from anxiety. The dollar reserves, aided by £22 million interim assistance, stood at £473 million at the beginning of July, when the Anglo-American ERP agreement was debated in the House of Commons.

The House of Commons approved the ERP agreement on July 6 by a vote of 409 to 12, with little criticism of its terms. A Marshall Plan loan of \$310 million announced on October 26 by ECA and the Export-Import Bank was the first American credit since the Anglo-American Loan of 1946. Counterpart funds amounted to \$250 million by the beginning of October, and a guaranteed investment project for a carbon-black plant on the Mersey River was arranged at about that time. By November 22 grants to Britain, exclusive of the loan, were above \$1,000 million.

An Anglo-American Productivity Council, the establishment of which was first suggested to ECA Administrator Paul Hoffman by Sir Stafford Cripps, was organized in September. Because the Council was expected to do something about the persistent American criticism of low output per man in Britain and about the facts behind the criticism, its organization was surrounded by political fireworks. Both the extreme left and the extreme right intimated, not at all delicately, that Britain was selling out to American bosses in order to get ECA aid.

The Council held its first meeting on October 25, with Sir Frederick Bain, President of the Federation of British Industries and Lincoln Evans, Trades Union Council, as co-chairmen of the British group and Philip D. Reed, Chairman of the Board of the General Electric Company, as the head of the American group. Both delegations included trade union leaders. Reed announced in New York in December that the first teams of British management and labor to visit American plants would soon arrive and that thousands would follow eventually.

Britain's Four-Year Plan. Fulfilling the demand of the Organization for European Economic Cooperation on the countries receiving Marshall Plan aid, the United Kingdom's four-year plan for economic recovery was submitted to the OEEC in Paris on October 15. The plan leaked out before there was official comment or explanation, far ahead of its issuance in Great Britain as a White Paper, and in advance of its adjustment to the national plans

of the other OEEC countries, but the details appeared to be well authenticated.

By 1952-53, the first year after the contemplated end of the Marshall Plan, Britain envisaged industrial production one-quarter higher and exports 30 percent higher in volume than in 1947. That achievement, together with the estimated increased agricultural production and higher net income from international services, would make the standard of living 15 to 20 percent higher than when Marshall Plan aid began. As long as the plan operated no relaxation of existing curbs on consumption was planned.

The one-year plan ending June 30, 1949, as sent to the Organization for European Economic Cooperation was issued as a White Paper on October 21. This revised program took account of the agreement on the aid to be given Great Britain and on the conditional aid to be given by Britain to other Marshall Aid participants, and thus replaced *Economic Survey* estimates for the calendar year. With aid to Britain now estimated at \$1,263 million and British grants to other countries at \$312 million, it was believed that in general existing consumption levels could be maintained in 1948-1949, and that the anticipated gains in all major fields of production would go into the restoration of Britain's external financial strength.

As the pressure to develop commodity exports increased the individual leaders in the race were acclaimed as if they were sprinters. The biggest exporter in the first 9 months of 1948 was the motor industry, with cotton second, and iron and steel third. Cotton was flagging, however, and it appeared that iron and steel would forge into second place by the end of the year. The American market took the biggest share of both the 47,000 tractors and the 19,000 cars exported in the first three-quarters of the year.

Wages, Prices, and Rations. Early in the year, following the issuance on February 4 of a White Paper called *Statement on Personal Incomes, Costs and Prices*, the Government got voluntary agreement from manufacturers and trade unions to stabilize prices and wages. This required a change in the food subsidy program, from one of pegging the subsidies and allowing prices to rise to a new plan of stabilizing prices and increasing the food subsidies. Prices of imported food were not susceptible to control, and estimates of subsidy cost for the year rose gradually from £382 million to £500 million.

The Trades Union Congress at Margate in September endorsed the stabilization program, but only after it had adopted a resolution calling on the Government to take more effective action in effecting a substantial reduction in consumer prices, to maintain and if necessary to increase subsidies, and to impose stricter limitations on profits. At this time the cost of living figure had held steadily to 108 since spring, except for a seasonal rise in June on account of the price of potatoes.

Slight increases in rations came at intervals in the course of the year. Increases in children's and priority milk allowances were made in May and bread rationing was given up at the end of July, about two years after its introduction. Potato rationing was ended when the food crops began to come in. Nevertheless the average food intake fell to about 2,680 calories per head in the first half of 1948.

Clothes coupons were given better values early in May, and on May 26 additional clothes coupons became valid. At this time a few articles were taken off the ration list and some reduced rates were

ordered. In July more clothes concessions were made. In December a one-sixth increase in soap ratings was announced for 1949.

Steel Nationalization Bill. The introduction in the House of Commons on October 29 of the bill to nationalize the British iron and steel industry was the concluding step in the fulfillment of the Labour Party's socialization program as it was put before the electorate in 1945. In the interval there had been some hesitation, but at the Labour Party's annual conference at Scarborough in May the membership was reassured by a rereading of Prime Minister Attlee's nationalization promise of October, 1947, and by their executive committee's expulsion from the Party of Albert Edwards, M.P., who had declared that it would be suicidal to persist in the nationalization plans.

The special session of Parliament from September 14-24 was actually called because of steel nationalization plans, although it purported to deal with the power of the House of Lords to delay for two years legislation to which it was opposed. In order that the steel nationalization bill should not be delayed past 1950, the year of the next general election, the Labour-dominated House of Commons voted a reduction of the period to one year, with a retroactive provision.

Three days after the new session of Parliament opened on October 26 the Iron and Steel Bill was published. It proposed to nationalize all the major firms engaged in the basic processes of the industry together with their subsidiary companies. The bill named 107 companies which would be transferred to the Government corporation, the new Iron and Steel Corporation of Great Britain, on the vesting date, May 1, 1950, or a later date within 18 months.

This was the first nationalization plan involving a manufacturing industry. It would result in competition between Government plants and private firms. Motor car manufacture was specifically excluded. The Compensation stock to be issued was estimated at \$1,200 million and the number of employees about 300,000. The Government planned to continue the units under their existing names and management and so to retain the good will attached to the products.

The extreme differences of opinion shown as the bill was given its first and second reading in the House of Commons surprised few people. On October 1 the Iron and Steel Board was dissolved when all members except the trade unionists declined to serve longer. This board had been concerned with the execution of a report issued in 1946 by the Iron and Steel Federation, at the instigation of (then) Prime Minister Winston Churchill. Ivor Thomas, former Parliamentary Secretary for Civil Aviation and Colonial Under-Secretary, in resigning from the Labour Party at the end of October, began his explanation to the House of Commons with an attack on steel nationalization.

Bitterness was at its height in the debate on the second reading, which moved the proposal past the critical legislative stage by a vote of 373 to 211. More members of the House voted at that time (November 17) than on any piece of legislation since the Labour Government came into power in 1945. The Labour Government produced 373 out of its possible 393 votes, and the 191 Conservatives were aided by 10 Liberals and a few others.

Coal Problems. The nationalized coal mines required administrative changes in 1948, when operation in general was disappointing. In May Sir Charles Reid, who was a member of the National Coal Board serving as production director, resigned

from the Board. Sir Charles said that neither his resignation nor his explanatory statement should be used against the Government, for nationalization was "wise and right," but he indicated that the managerial duties of the Board members, the over-centralization, and the reliance on Civil Service rather than on business methods were factors in the low output and high cost of the mines.

In a House of Commons debate on coal on June 24, Minister of Fuel and Power Gaitskell argued that changes in organization would not change the psychological problems of the industry. He suggested that it was difficult to get the miners to understand that mechanization, increased output, and reduced costs would give them a higher standard of living.

Action was speeded up after the report of the Coal Board for 1947 was laid before Parliament on July 13. The report showed a deficit of about £100 million, increased costs of production per ton, and improvement over 1946 in total output, output per man, and absenteeism; but a poorer record on all three than in 1938, 1939, or 1940. In the first week in October the Minister of Fuel and Power induced the National Union of Mineworkers as well as the National Coal Board to promise an immediate increase in coal output.

Reforms Proposed. Later in October the Mineworkers' Union accepted a code of conduct for miners worked out by a council of miners, union leaders, and nominees of the National Coal Board for the increase of output. The Yorkshire Division and the Scottish Division of the National Union of Mineworkers rejected the proposals, which included fines for habitual absenteeism and legal action against miners who participated in unofficial strikes.

In the meantime the Coal Board and the Government were working on the problems that were increasingly pressing as production fell behind the goal set. Sir Robert Burrows, himself a member of the Coal Board, was made the chairman of a "stock-taking committee" appointed by the Board. The Burrows report, issued on November 22, recommended increasing the size of the Board from 9 to 12 and urged that board members be freed from the duties of managing departments so that they could concentrate on policy matters.

Proposals were now coming in fast. On November 22 reorganization suggestions by Col. C. G. Lancaster, M.P., were published in pamphlet form by the Conservative Political Center. Sir Charles Reid wrote a series of articles for *The Times* of November 22, 23, and 24 in which he proposed to set up 26 corporations, each with a managing director and other necessary executives. Both reports, in short, put strong emphasis on the need for executive autonomy in the local areas, and both relieved the central board of most of its executive duties.

At the end of November Parliament debated a new bill to increase the size of the Coal Board and alter the duties of the members. *The Times* (November 30) then observed: "These changes clearly do not go to the heart of the matter. When do the Government expect coal to become more plentiful, cleaner, and cheaper?" The deficit reported by the Coal Board on December 6 was £373,000, although a profit of £3,477,000 had been planned.

Other Nationalized Enterprises. In 1948 only the railway part of transport was yet taken over by the British Transport Commission. On January 1 the state took the railways and exchanged Government stock for the railway securities. Costs were rising and a deficit of £20 million was expected in 1948. Cable and Wireless showed a decline in

profits for 1947 but brought little criticism upon itself, for rate reductions and accounting changes were partly responsible.

Three State air companies, the British Overseas Airways Corporation, British European Airways, and British South American Airways, showed deficits for the year ended Mar. 31, 1948, but only 5 percent more than in the previous year. In December BOAC announced a cut in the dollar payroll staff from 1,502 to less than 600, effective by March, 1949. The nationalized Bank of England had an uneventful year, except for the announcement by Lord Catto, Governor, of his plan to retire under the age limit rule in 1949 and the appointment of C. F. Cobbold to succeed him.

Parliament's Year. Parliament sat for three periods in 1948: from January 20 until the end of July, when the outstanding legislation was the budget bill and the bill to curb monopolies; from September 14-24, a special session for pushing ahead the Parliament Bill; and from October 26 until the holidays, a strenuous period in which steel nationalization and the Parliament bill were approved and the extension of conscription was decided upon.

The special session gave the House of Commons, with its large Labour majority, the chance to pass for a second time—the first was in the preceding session—the Parliament Bill which the House of Lords had rejected. To enact the bill it was necessary for the Commons to pass it twice again within two years of its first passage in the Commons. All this had to be accomplished if steel nationalization (certain to be disapproved by the House of Lords) was to go through before the general election of 1950, for until the Parliament Bill was passed the Lords could delay legislation for approximately two years by the procedure outlined, while the new bill reduced the time to one year.

When the Parliament Bill passed its third reading in the House of Commons the attendance was sparse and the debate listless. A final criticism was made of the retroactive clause applying the provisions of the bill to measures introduced before its passage—meaning steel nationalization. The National Service Bill extending conscription from 12 to 18 months received only about 100 Labour votes, with many members abstaining, at the time of the third reading. Conservative votes were responsible for nearly all of the rest of the 218 votes. Twenty-five were opposed.

At the end of October the House of Commons approved unanimously the Government's motion to establish a tribunal to consider allegations of bribery and corruption in the Board of Trade. Prominent names were involved, but Churchill, Leader of the Opposition, urged the members of Parliament to "set the example in not indulging in gossip or the wide diffusion of names and other scandals."

Prime Minister Attlee and Herbert Morrison, Lord President of the Council and Leader of the House of Commons, were absent from their duties for short periods for reasons of health. Former Chancellor of the Exchequer Hugh Dalton, who resigned that office in 1947 because of a budget leak, returned to the Cabinet at the end of May as Chancellor of the Duchy of Lancaster, an office without specialized duties. The foundation stone of the new Chamber of the House of Commons was laid on May 26. The former Chamber was rendered unusable by World War II bombing.

July Fifth. Britain's new charter of social security came into full operation on July 5. Four new acts

—National Insurance, Industrial Injuries, National Assistance, and the National Health Service—all part of a general plan, went into force on that date. Prime Minister Attlee, broadcasting to the nation on the eve of the event, described the completed plan as "the most comprehensive system of social security ever introduced in any country." A half-century of social reform was now embodied in the unified "from-the-cradle-to-the-grave" system advocated and drafted five years before by Sir William Beveridge (now Lord Beveridge).

Arrangements with the doctors who were expected to participate in the Health Act operations were difficult. A plebiscite taken by the British Medical Association in February showed 40,800 against the act and only 4,700 for it. Concessions were made by Minister of Health Aneurin Bevan, and eventually a measure of participation was assured.

Royal Family. The birth of a son to Princess Elizabeth, Duchess of Edinburgh on November 14 was an event which brought many scenes of spontaneous rejoicing and expressions of affection. Only a few days later, on November 23, came the announcement of King George's illness and the inadvisability of his visiting Australia and New Zealand in early 1949 as he, together with the Queen and Princess Margaret, had planned to do. Both Houses of Parliament promptly expressed through the leaders of the chief parties their regret, together with appreciation of the King's onerous labors in the 12 years of his reign.

The silver wedding anniversary of the King and Queen on April 26 was made a day of celebration and thanksgiving in which the public participated. Ceremonies were held in St. Paul's Cathedral and in the City of London. In May Princess Elizabeth and the Duke of Edinburgh made their first visit to Paris, during which most of their time was given to protocol functions.

Commonwealth and Empire. Changes in the Commonwealth—Burma's departure as from January 4, the presence of India and Pakistan as Dominions since 1947, and Ceylon's after Feb. 4, 1948, and Eire's decision to sever all ties with Britain—were reflected in the character of the Conference of Commonwealth Prime Ministers held in London October 11-22. The Prime Ministers of the new Dominions, Nehru of India, Ali Khan of Pakistan, and Senanayake of Ceylon, were active participants, and the Prime Minister of Southern Rhodesia, Sir Godfrey Huggins, whose country was next in line for dominion status, was present as an observer.

The first afternoon was taken by Sir Stafford Cripps' exposition of Britain's four-year economic plan, in order—as the final statement of the Conference phrased it—"to give the other Commonwealth countries an opportunity to examine its implications for their own economies." The United Kingdom won agreement that Western Union "was in accordance with the interests of the other members of the Commonwealth, the United Nations, and the promotion of world peace."

New collateral business was created by the invitation of the Prime Ministers of the old dominions, Canada, Australia, and New Zealand, to representatives of the Irish Government to come to Chequers on October 17 to discuss the Commonwealth implications of the Republic of Eire bill shortly to be laid before the Dáil. Little information was released about the meeting, at which Prime Minister Attlee was present, or about a similar one in Paris a month later, but obviously imperial preferences and citizenship rights of the Irish in other Dominions

ions were matters in which the other countries were deeply involved.

The final statement of the Conference contained a friendly reference to the "new representatives of sovereign nations," India, Pakistan, and Ceylon, who "brought to the deliberations of their colleagues from the other free countries of the Commonwealth the wisdom of their ancient civilizations vivified by the dynamism of the modern age," but by its omissions it stirred up small tempests, particularly in Australia and in the mood of Winston Churchill.

The omission of the words "British," "Empire," and "Dominion" from the Conference statements, undoubtedly in courtesy to the three eastern countries which were newly and aggressively independent, provoked Churchill on October 28 into what *The Times* called "Churchillian broadsides which swept the globe from India to Eire." In the name of the Conservative Party Churchill said that any attempt to abandon these expressions would be resisted. He also criticized the Socialist Government for carrying "the world-famed British Empire in the east from life into history" and Eire's Prime Minister Costello for digging "the gulf between Southern and Northern Ireland deeper than ever before."

Relations with Eire. The cordial relations between Britain and Eire which existed in the early part of the year were not disturbed by the passage in Eire of the Republic of Eire Bill, 1948. A new trade agreement negotiated in June appeared to be advantageous to both countries, with its improved volume of imports for Britain and its higher prices for Eire. As for the technical problems raised by the repeal of Eire's External Relations Act embodied in the Republic of Ireland Bill, Britain seemed inclined to let the issues lie undiscussed as long as possible.

On November 25 Prime Minister Attlee told the House of Commons that despite Eire's move to sever her last connection with Britain, the United Kingdom Government still recognized the "factual ties" between the two countries and would not consider Eire foreign or her citizens foreigners. Churchill replied that this was "inaction" and refused to associate the Conservative Party with it, but Attlee finally suggested that until Churchill could offer a better policy he should accept the Government's decision with better grace.

Palestine Policy. Britain gave up its Palestine mandate on May 15 and by the beginning of July the last of the British troops had left Haifa. The Colonial Office and the Foreign Office took the occasion of the end of the mandate to issue jointly a review of the 25 years of its operation. Since the end of World War II, according to the report, 338 British subjects had been killed in Palestine and the cost to the British taxpayer had been £100 million.

After months of unsuccessful effort from several quarters to solve the Palestine problem, on November 18 the British Government formally introduced in the political committee of the General Assembly of the United Nations a resolution calling on the General Assembly to accept and take steps to apply the conclusions of the Bernadotte report. After consultations with the United States the resolution was so revised as to delete its previous endorsement of the Bernadotte proposals.

Western Union. In opening a foreign affairs debate in the House of Commons on January 22 Foreign Secretary Bevin declared that the time was ripe for a consolidation of western Europe. He anticipated the signing of treaties with the Benelux

countries, thus making, with the treaty with France, an important nucleus of a western union. In the debate the proposal was endorsed by Anthony Eden, Conservative.

The Treaty of Brussels embodying the plan of a Western Union was signed by the five countries on March 17. At the end of April the defense ministers of the powers met in London, and on October 4 the appointment of Field Marshal Lord Montgomery as Permanent Military Chairman was announced.

Relations with Russia. The Russian blockade of Berlin beginning in June harmed Britain's already strained relations with the U.S.S.R. Foreign Secretary Bevin's reports to the House of Commons became more outspoken, and on September 22 he called the blockade "dastardly." On October 11 the British Foreign Office issued a White Paper on the Berlin question in which it was said that the Soviet Union had "embarked upon a carefully prepared attempt to compel the western occupying powers to abandon under duress their rights in Berlin." Britain participated in the airlift and joined with the United States in an appeal to the Security Council of the United Nations.

Relations with the United States. Britain was reluctant to acquiesce in the arrangements made by ECA Administrator Paul Hoffman to halt the dismantling and removal for reparations of industrial plants in western Germany, and on September 14 Sir Oliver Franks, the British Ambassador in Washington, delivered to the State Department a note from Foreign Secretary Bevin deprecating the proposal. Sir Oliver, who succeeded former Ambassador Lord Inverchapel in May, arrived when there was lack of agreement on Palestine policy, and found that the British Consulate and British business offices in New York were being picketed by Zionists urging passersby not to buy, use, or travel British.

—ALZADA KONISTOCK

GREECE. A kingdom in southeastern Europe. King: Paul I, who succeeded his brother, George II, on Apr. 1, 1947. Area: 51,182 square miles. Population (1948 est.): 7,780,000, including the Dodecanese. Chief cities (1939 pop. est.): Athens (capital), 491,120; Piraeus 281,340; Salonika (Thessalonike) 263,690; Patras 72,700; Kavalla 49,980; Canea 26,608; Corfu (Kerkyra) 32,221. The density of population is 133 per square mile.

Religion and Education. School attendance in 1937-38 was: Elementary, 985,018; secondary, 92,687; university, 7,998. The 1928 census showed 5,961,529 members of the Greek Orthodox Church; 126,017 Moslems; 72,791 Jews; 35,182 Roman Catholics; 9,003 Protestants.

Production. While commerce and industry are not negligible, the mainstay is agriculture; despite the limited available arable areas—18.5 percent of total cultivated in 1946. Production of leading crops in 1946, compared with the 1935-38 average, shown within parentheses, was as follows: (in thousands of metric tons): wheat, 700 (767); other grains, 593 (665); tobacco, 33 (60); dried fruits, 95 (229); fresh fruits, 65 (81); olive oil, 90 (112); edible olives, 35 (44); cotton, 25 (44). The total value of agricultural production (including dairy products and table fruits) was estimated at 33,700,000,000 drachmas (\$270 million) in 1940.

Livestock, which is important in Greece, declined considerably during the Nazi occupation. The number of livestock at the end of 1946 (1938), (estimated in thousands): sheep 6,000 (8,139); goats, 3,130 (4,356); cattle and calves, 604 (967); hogs, 400 (430); horses, mules, and

colts, 354 (548); milk cows (including draft milk cows), 252 (411); draft oxen, 240 (343); other oxen, 108 (214); donkeys, 332 (404); and poultry, 7,500 (11,945).

Recovery of industrial production since liberation has been slower than the recovery of agricultural output. In 1939 total industrial output was valued at 14,112,679,000 drachmas (about \$112 million), distributed chiefly among: textiles, chemicals, foodstuffs, electricity, leather, machinery, and building materials. The Athens-Piraeus district is the country's major industrial area; more than one-fourth of the total number of enterprises, which include almost all types of industry, are located here, and production accounts for 60 to 70 percent of total output. The Salonika district ranks second as an industrial area, and includes chiefly food processors, leather makers, machine shops, and tobacco plants. Greece possesses a variety of minerals, of which magnesite, iron pyrites, lead, emery, and chrome ore are prominent in export. Other mineral resources include chiefly iron ore, magnesite, nickel and zinc ore, bauxite, and lignite; there is no petroleum or bituminous coal.

Foreign Trade. Greece is primarily an importer of consumer (including foodstuffs) and capital goods, and an exporter of agricultural (chiefly tobacco and fruits) and mineral products. Normally, exports cover only about 65 percent of the value of imports. Since liberation, Greek foreign trade has recovered very slowly; the major proportion of Greece's imports from liberation until the end of 1946 was supplied by UNRRA. Foreign exchange is subject to official control.

Finance. Wartime inflation has wiped out the internal debt. The basic monetary unit is the drachma (5,000 drachmas = U.S.\$ since Jan. 31, 1946) and the principal fractional unit is the leptons (1 drachma equals 100 leptas). The 1946-47 budget placed revenue at 1,572,000 million drachmas; expenditure at 1,655,000 million. The prewar currency was withdrawn and replaced by a new drachma on Nov. 11, 1944, the exchange being at the rate of 1 new drachma to 50 billion old drachmas.

Transportation. The railway system sustained considerable damage as a result of the war, rolling stock was greatly reduced, and reconstruction is proceeding slowly. The principal lines are those connecting Athens and Piraeus with Patras, Kalamata, and Salonika. At the end of 1940, the length of line of the 7 railway companies totaled 1,767 miles, of which 840 were Government owned and operated. Little highway construction has been undertaken and the general condition of the roads is poor.

At the end of 1939 mileage of Greek highways totaled 8,440, of which 7,064 miles were improved earth, gravel, and waterbound macadam; 1,191, surface treated and penetration macadam; and 185, bituminous concrete and asphalt surfaced cement. There are no navigable rivers, and less than 10 with an appreciable year-round flow. There is only one important canal, the Corinth canal, which separates continental Greece from the Peloponnese. Coastwise shipping constitutes a major form of transport, but the replacements have been slow. Piraeus, the port of Athens, is the most important of the 12 major seaports of Greece; normally about two-thirds of total Greek imports clear here. There is one large free zone at Piraeus, and Greek and Yugoslav free zones at Salonika. The airport service is being steadily expanded.

Government. King George died on Apr. 1, 1947, and was succeeded by his brother, Prince Paul.

Greece is a constitutional monarchy; the Government includes a Cabinet and an elected unicameral legislature. According to a resolution of the National Assembly of Oct. 10, 1935, the Greek Constitution of 1911 was to remain in force until the enactment of a new Constitutional Charter. King George issued a royal decree, on Oct. 22, 1941, regulating the functions of state authorities in cases in which the 1911 Constitution could not be fully applied owing to the absence of the Greek Government during World War II.

Events, 1948. The grim situation, both internal and international, showed no signs of improvement during the year. As in 1947, Greece was unable to devote her energy to the urgent task of reconstruction but forced to keep on fighting the elusive guerrillas on the northern borders, in spite of America's help. Thus agricultural production (attaining 70-80 percent of prewar level by the end of 1946) deteriorated again despite substantial irrigation and drainage schemes, due to the flight of the farmers from the guerrilla-plagued regions. (Some 600,000 lived as refugees in or near the big cities.)

Yet, American aid produced some excellent results. The Corinth canal was reopened, the ports of Piraeus, Salonika, and Volos rebuilt, and good work done in repairing the Athens-Salonika, Athens-Peloponnese, and Salonika-Serres roads. Adequate supplies of food were sent in and industry furnished with essential machinery and raw materials to the limits of its capacity to absorb and employ them.

But the problem of the guerrillas remained as acute as formerly. In the spring, the Greek Army, strengthened, fed, reinforced, equipped with American dollars, and advised by American officers, commenced a major effort to clear the country of the guerrillas. But in October, with snow coming on in the Grammos mountains and in the rest of the ragged, vertical terrain along Greece's northern frontier, the guerrillas were still fighting, and numbered perhaps 22,000 to 25,000 as compared to 15,000 to 18,000 in 1947. Greek rebels were able to escape the defeat by moving across the neighboring frontiers to safety.

On November 10, after more than two weeks' debate, the Political and Security Committee of the General Assembly of the UN found Yugoslavia, Albania, and Bulgaria guilty of endangering peace in the Balkans and decided to keep the UN on-the-spot observation committee at work in Greece for another year. On November 27, sitting in full session, the UN General Assembly formally called on Albania, Yugoslavia, and Bulgaria to cease all aid to the Greek guerrilla forces. However on December 14, Dr. Herbert Evatt, President of the General Assembly announced that efforts of his conciliation committee to bring about a settlement of outstanding problems between the Greek Government and the governments of these three neighboring states had failed because of the Greek Government's refusal "to treat existing boundaries between Albania and Greece as definite."

The military reverses reflected themselves in the economic and administrative problems of the country where the aged (88) and ailing Premier Themistocles Sophoulis resigned on November 12. But the Cabinet crisis was settled on November 21, for the time being, without bringing about any real change in a Government that had been criticized as inept in both military and economic affairs. Sophoulis returned as Premier at the head of a Rightist coalition, with only a few minor Cabinet

shifts; was approved by 168 votes (against 167) of the Chamber; and obtained the Chamber's adjournment until Feb. 1, 1949.

On March 7, the Dodecanese Islands were incorporated into the realm of Greece. The Government protested, on June 2, to Yugoslavia, Bulgaria, Poland, Czechoslovakia, Hungary, Rumania, and Albania, through the United Nations Secretariat, asking for the immediate return of the abducted children. Following the visit of Secretary of State Marshall to Athens on October 17, President Truman told Congress, on December 6, that Greek army efforts to liquidate Communist guerrilla forces had produced "a military stalemate" despite the delivery of \$170 million of United States arms and supplies—and that the Greek army was itself partly to blame for the failure to follow up a series of victories during the summer with a "determined effort" against the remaining rebel front. But by the end of the year, the Greek situation had deteriorated even more rapidly than Truman's pessimistic report indicated. —JOSEPH S. ROUCK

GREENLAND. This, the world's largest island, is a Danish colony situated between the North Atlantic and the Polar sea. Area: 839,782 square miles, of which more than 75 percent is covered by an icecap. Population (1945): 21,384, of whom 569 were Europeans. Chief settlements: Julianhaab, Godthaab (capital), Sukkertoppen, Egedesminde, Thule, and Angmagssalik. The natives speak an Eskimo dialect. Education includes grade schools, high schools, and a training school for teachers. The official religion is the Lutheran.

Production. The mainstay of the native population is fishing and hunting. A total of 7,945 metric tons of cod was produced for salting in 1944. Halibut and seal are also important. Agriculture is limited to sheep raising along the southwestern coast. The important minerals are cryolite (largest deposits in the world), of which 20,106 tons were exported to the U.S. in 1945, and lignite coal, of which about 8,000 tons were mined in 1945. Marble has been quarried and deposits of pure lead ore and uranium layers are present. Except for cryolite, trade is a crown monopoly.

Government. For administrative purposes Greenland is divided into two inspectorates (Godthaab and Godhavn), each with a governor responsible to the Greenland Administration (Grönlands Styrelse) section of the Ministry of State in Copenhagen.

Negotiations between Denmark and the United States over Danish demands for the abrogation of the pact entered into in 1941, have brought various proposals, but no settlement.

GUADELOUPE. A department of France (since Jan. 1, 1947) in the West Indies, consisting of two main islands—Basse-Terre (pop. 113,412) and Grande-Terre (pop. 113,545)—and the five Leeward islands of Désirade, Les Saintes, Marie Galante, St. Barthélemy, and St. Martin. Total area: 688 square miles; total population (1946): 271,262 (1948 est. 304,000). Chief towns: Basse-Terre, capital (13,638 inhabitants), Pointe-à-Pitre, chief port (44,551 inhabitants). The population is mostly Negro and Mulatto. Education (1946-47): 131 schools and 29,221 pupils.

Principal agricultural products (1947): sugar (50,000 metric tons), coffee, cacao, bananas (48,000 tons), manioc, and vanilla. There is considerable manufacture of rum and spirits (202,324 hectoliters of pure alcohol in 1947). Total imports (1946) amounted to 1,115 million francs; exports to 1,495 million francs. Chief exports are rum,

sugar, and bananas. Finance (1947): revenue and expenditure balanced at 1,049,313,000 francs. On Jan. 1, 1948, the outstanding debt totaled 607,627,000 francs. Guadeloupe is represented in the National Assembly, the Council of the Republic and has one delegate to the French Union. Prefect M. Philipson.

GUAM. The largest island of the Marianas group was ceded to the United States by Spain at the close of the Spanish American War in 1898. It is situated in the mid Pacific, 1,500 miles east of Manila, 1,300 miles south of Japan, 3,337 miles from Honolulu, and 5,053 miles from San Francisco. The island has a land area of 217 square miles extending 30 miles north and south, and is 4 to 8½ miles wide.

Population. The population, as of July 1, 1948 totaled 25,677 persons of whom 12,993 were male and 12,684 females. Of these 21,452 were native born and 1,225 foreign born. The local population is mainly of Chamorro stock—a mixture of the ancient Chamorro people with Spanish, Mexican, Filipino, Anglo-Saxon, Japanese, and Chinese strains. In addition, the transient or off-island population consisting of military personnel and their dependents, civil service and contract employees from the United States mainland and Hawaii and other off island persons is, on the average, 65,000.

While English is the official language of the government and of the schools, the native Chamorro language is widely spoken in the daily life of the people. The predominant religion is Roman Catholicism.

Education. In the elementary and high schools the enrollment for the 1948-49 school year was 8,731 and 30 university trained teachers and supervisor personnel from the United States were employed in the Guam educational program.

Production and Trade. All forms of agriculture and business were disrupted and the principal town demolished during the war. Most of the civilian population are earning their livelihood at present from employment by the United States Navy. Imported goods entering the commerce of Guam for the quarter ending Sept. 30, 1948, were valued at \$1,852,878. Total commercial receipts from businesses on Guam for that quarter amounted to \$4,691,474. The Bank of Guam had total resources of \$34,877,299 as of Nov. 4, 1947.

Government. Guam is classified as a United States possession. The inhabitants of Guam are nationals but not citizens of the United States. A senior Naval officer is commissioned by the President as Governor of Guam, and the same officer is designated by the Secretary of the Navy as Commandant Marianas Area. The government is administered by departments. In each municipality of Guam a Commissioner is appointed as a district representative of the Governor in an advisory and informative capacity. The Guam Congress, composed of a House of Council and a House of Assembly, is elected by popular vote; Councilmen for four years and Assemblymen for two years. Prior to Aug. 5, 1948 the Guam Congress acted in an advisory capacity only to the Governor. On that date the Secretary of the Navy by proclamation vested certain legislative powers in the Guam Congress. Pursuant to this legislation passed over the veto of the Governor to the Secretary of the Navy for final decision Governor: Rear Admiral Charles A. Fownall (inaugurated May 30, 1946).

Events, 1948. During 1948 Eniwetok Atoll in the Marshall group was utilized as a proving ground for routine experiments in atomic energy develop-

ment conducted by the Atomic Energy Commission. During the year the civil administration units at Kwajalein and Yap were consolidated with units at Majuro and Koror, respectively. A leper hospital for the entire area was established on Tinian in October, 1948, and a tuberculosis sanitarium is being completed on Saipan. Three scientific surveys were in progress in the territory during the year: of the people, by the "Coordinated Investigation of Micronesian Anthropology," a group of scientists from 21 different institutions of the United States and Hawaii; of the fishing resources of the area, by the Fish and Wildlife Service of the Department of Interior pursuant to Public Law 329 of the 80th Congress; and of the insect pests of the islands, by the Insect Control Committee for Micronesia, under the auspices of the Pacific Science Board of the National Research Council. In October, 1948, a Chief Justice for the Trust Territory, responsible directly to the Secretary of the Navy, was appointed to preside over the District Court and Court of Appeals. Legislation to provide an organic act for the Trust Territory and to confer local citizenship upon the indigenous people was prepared and introduced in the 80th Congress by the Department of State but no action was taken thereon.

In June, 1948, a committee of 6 senators and 6 representatives was authorized by the Congress to conduct a study of the Trust Territory and of other islands in the Pacific. As of Feb. 15, 1949, no definite time had been announced for the committee's projected inspection trip to the territory. At the present time Admiral DeWitt C. Ramsey is High Commissioner and Rear Admiral Leon S. Fiske is Deputy High Commissioner of the Trust Territory.

GUATEMALA. A republic of Central America. Area: 45,452 square miles. Population: 3,706,205 (1946 est.), of whom 55 percent are Indians; the remainder are either mestizos or of European descent. The largest cities are Guatemala (capital), 176,780 inhabitants, Quezaltenango, Puerto Barrios, Cobán, and Zacapa.

Education and Religion. The Constitution guarantees freedom of worship. Roman Catholicism is predominant. Spanish is the official language, but many of the Indians speak their own dialects. Over 40 percent of the population is literate. According to the school census of 1947, there were 3,290 primary schools with 189,950 pupils; over 62 intermediate schools with 8,916 students. There is a national university with 694 students (1947).

Production. The country is primarily agricultural. Coffee is the most important crop, occupying $\frac{1}{3}$ of cultivated land. Largest export crops are coffee, bananas, and chicle. Coffee production in 1946-47 was estimated at 1 million quintals (of 101.4 lb.); sugar 521,200 quintals; and tobacco (1947) 5 million lb. Banana exports in 1946 were valued at 8,687,588 quetzales (quetzal equals U.S.\$1). Other agricultural crops are corn, beans, rice, and wheat. Livestock slaughtered in 1946: cattle, 136,000; sheep, 217,000. Mineral production included small quantities of gold, lead, chromite, and sulphur. Manufacturing is limited to consumer goods, chief among these are cement, beer, cigarets, lard, and wheat flour.

Foreign Trade. Total exports in 1947 were valued at \$52,080,000; imports at \$57,360,000. Of this amount coffee accounted for some 70 percent, or 20,383,271 quetzales in 1946. Chief buyers are the United States, Canada, Switzerland, Mexico, and Nicaragua. Guatemala's principal imports come from the United States, Mexico, Peru, and Aruba (Netherlands West Indies).

Transportation. There are four railroads operating in the country, with a total of 723 miles of track. Some private lines are owned by the banana companies. Road mileage of all kinds exceeds 5,000. There were over 5,000 motor vehicles registered in 1945. Air service is provided by Pan-American Airways, and some local companies of which TACA is the most important.

Finance. In the 1948-49 budget estimates, revenue and expenditure were balanced at \$44,646,000. The total public debt was \$3,845,695 in 1948. Currency in circulation on Dec. 31, 1947, amounted to 31.8 million quetzales, bank deposits to 20.2 million. Gold reserves at the same date were \$27 million. There is no import or exchange control in Guatemala.

Government. Guatemala is a centralized republic divided into 22 departments. The Constitution of Mar. 11, 1945, provides for a unicameral congress (proportionally elected by universal suffrage for a 4-year term). The President is elected for a 6-year term, and may not be reelected until after a lapse of 12 years. Dr. Juan José Arévalo Martínez was elected President in December, 1944, and took office on Mar. 15, 1945.

Events, 1948. The year opened with public attention centered on the Belize problem; the government policy seemed inclined to present the case to the Ninth Conference of American States to be held in Bogotá.

Reorganization of the Government. On March 10, President Arévalo Martínez substantially reorganized his Cabinet. Minister of Foreign Affairs Muñoz Meany continued in his post, and announced that he would follow a firm policy in the Belize affair. The Congress met on March 11 to consider the severance of diplomatic relations with Great Britain, but the matter was referred to a commission, which has made no decision. Simultaneously, the new Cabinet requested the support of the Pan American Union in Guatemala's trouble with Great Britain, and especially with regard to the tension created by the appearance of British warships off the Guatemalan coast. All through April Belize was in the public mind, and the Congress acted against certain newspapers of a conservative trend who, because of their opposition to the Government, were defending Britain's position. Finally, the administration sent a diplomatic note to Great Britain, to the effect that a favorable atmosphere for the discussion of this problem by the International Court of Justice could not exist until the British battleships were ordered to leave Guatemalan waters.

Labor Protests. On May 27, numerous labor unions took part in a celebration honoring Augusto Charnaut, who had been removed from his post as Minister of Labor. Certain workers felt that this dismissal could be interpreted as a change in the Government's social program. The deposed minister belongs to the *Acción Revolucionaria* party and political circles were inclined to believe that his removal could be traced to disagreements between that party and a new organization formed by dissenters strongly inclined toward the right. Charnaut's removal affected the labor unions for some time, and on August 7 they held a large meeting to resolve that they would stand by President Arévalo. However, if the conservatives violated the Constitution, they warned that a general strike would be called immediately in defense of labor's rights.

International Front. Guatemala participated in the Ninth Conference of American States and signed the Charter of the Organization of American States in Bogotá (see PAN AMERICAN ACTIVITIES).

Apart from this, the international problem of the year, as stated above, was the Belize affair. Tension was at its highest point in February, when the battleship *Sheffield* and smaller units of the British navy were sent to Guatemalan waters, causing public indignation. The *Sheffield* left a few weeks later, and rumor had it that its departure was due to the friendly intervention of Washington's Ambassador to Guatemala.

—MIGUEL JORRIN

GUGGENHEIM MEMORIAL FOUNDATION, John Simon. Established in 1925 in order to improve the quality of education and the practice of the arts and professions in the United States, to foster research, and to provide for the cause of better international understanding, the Foundation offers a limited number of fellowships, tenable under the freest possible conditions, for research in any field of knowledge and for creative work in any of the fine arts, including music. The fellowships are awarded annually by the Trustees upon nominations made by a Committee of Selection and carry a stipend not exceeding \$3,000 per annum. The 1948 fellowships totaled 184, including renewals. Membership: Nine Trustees. Officers for 1948-49: President, Mrs. Simon Guggenheim; Vice President, Francis H. Brownell; Secretary General, Henry Allen Moe; Treasurer, Otto L. Myers. Offices: 551 Fifth Ave., New York 17, N.Y.

GYMNASTICS. The national A.A.U. championships combined with the final Olympic try-outs at Penn State College on May 1 to produce one of the most successful gymnastic meets ever held in the United States. Edward Scrobe, metropolitan amateur king from New York City, was the top performer, finishing first in the all-around competition. Scrobe scored 10 points more than Bill Bonnell of Penn State, his closest rival. Don Perry, California high-school boy, set a new world record of 3.1 seconds in winning the 20-foot rope climb.

In the A.A.U. tests and Olympic trials for women at Temple University in Philadelphia on May 8, Miss Clara Schroth of Philadelphia was the ace performer, winning titles in four events and leading the all-around competition to capture first position on the Olympic team. See OLYMPIC GAMES.

Penn State carried off team honors in the Eastern Intercollegiate, National Collegiate Athletic Association, and national A.A.U. meets. Minnesota was champion of the Western Conference.

—THOMAS V. HANEY

HAITI. A republic of the West Indies, occupying the western part of the island of Hispaniola. More than 80 percent of the surface is composed of highlands; the remainder is made up of lowlands in the north and west. The northern lowlands are moist and the western lowlands semi-arid. Rainfall is ample in the highlands, but its effectiveness is lowered by high temperatures and excessive evaporation.

Area and Population. Area, 10,700 square miles. Population, 3,500,000 inhabitants (1947). Approximately 95 percent are Negroes, the remainder mulatto. The capital city is Port au Prince, and other important cities are Cap Haitien, Gonaives and Aux Cayes.

Education and Religion. The Constitution guarantees freedom of worship. Roman Catholicism is predominant. French is the official language, but the majority speak the French Creole dialect. Not more than 8 to 10 percent of the population is estimated to be literate. In 1947, there were 212 urban primary schools reported, with 42,858 pupils; and 424 rural primary schools with 44,866. Secondary

education is provided by 25 Lycees with 23,777 students. Besides the Lycees, there are other secondary schools. The University of Haiti with 432 students in 1945 is the only institution of higher learning.

Production. Haiti is an agricultural country depending almost exclusively upon the production of coffee, sugar, cotton, bananas, sisal, and cacao. Coffee exports during the first six months of the fiscal year 1947-48 amounted to 12,307,375 kilograms, valued at 29,851,706 gourds (a gourd equals U.S. \$0.20), as compared with 16,624,082 kilograms and 41,211,355 gourds in 1946-47. Sisal exports for the same period increased 28 percent in volume and 63 percent in value over the corresponding period in 1946. Rice production (1947): 23,393,000 kilograms, an increase of 9 percent over 1946; rice exports (1947) came to 700,225 kilograms as against 667,498 in 1946. Other crops of importance (1946) were (in metric tons): cotton, 4,868; raw sugar, 20,667; molasses, 15,222; cacao, 1,254, and castor beans, 1,936.

Foreign Trade. Haitian exports amounted to \$31.4 million; imports to \$27.2 million in the fiscal year ending Sept. 30, 1947. Exports consisted chiefly of coffee, sisal, raw sugar, and cotton, while imports were iron, steel products, soap, cotton goods, machinery, trucks, and automobiles.

Transportation. There are about 143 miles of railroad and 1,792 miles of fairly good highways. 9,233 motor vehicles were registered according to latest statistics available, which also showed some 2,000 telephones, and 5,000 radio sets.

Finance. Budget estimates for the fiscal year ended Sept. 30, 1948, were: revenue \$10,350,410; expenditure \$10,349,921. The largest appropriations were: Public Debt, \$2,348,405; Interior, \$2,806,970; and Education, \$1,136,966. Currency deposits on Dec. 30, 1947, were 29.4 million gourds.

Government. Under the Constitution of Nov. 22, 1946, Haiti is a centralized republic of five departments. The President is elected for 6 years by a two-thirds vote of the National Assembly. This body consists of the Chamber of Deputies of 87 members (elected for 4 years by popular vote) and a Senate of 21 members (11 elected by the Chamber of Deputies and 10 appointed by the President). Dumarsais Estimé was elected President on Aug. 16, 1946, by the General Constituent Assembly, and took office on the same day.

Events, 1948. Haiti, in recent years the scene of considerable political trouble, had a year of peace and progress.

Domestic Front. Estimé's administration devoted its attention to the development of the educational system and to economic planning, in order to put to good use the favorable trade balance enjoyed by the country. An important project undertaken was the establishment of a hydroelectric plant at Onde Verte and the irrigation of about 40,000 acres of farmland in the Artibonite Valley, at a cost of \$2.5 million. The first installment of \$800,000 was appropriated by the Ministry of Public Works.

In July, the director of the official paper, *Le Moniteur*, Jean Remy, well-known in literary circles, was shot to death in one of the main streets of the capital. At first, a political outbreak was feared when the police captured the assassin who was later snatched away by an angry mob and lynched. The event was reminiscent of the Cailán assassination in Bogotá and similar repercussions were dreaded, but it was found in time that Remy's murder had a purely personal motive and nothing further occurred. The killer was one Gerard Viau, who

thought Remy was instrumental in his having been denied a scholarship.

International Front. The Haitian delegation was active in the Ninth Inter-American Conference of American States held in Bogotá in April (see PAN AMERICAN ACTIVITIES), and signed the Charter of the Americas. The government began preparations for the International Exposition to be held at Port au Prince in 1949. The purpose of the government to contribute to this international event was favorably commented upon in inter-American circles, and in Haiti it was considered as economically helpful to the laborers of the country.

—MIGUEL JORRÍN

HANDBALL. A record entry of 91 singles players and 54 teams sought handball's biggest prizes in the thirtieth annual national A.A.U. four-wall championships at the Town Club, Chicago, in April. Gus Lewis, Hollywood A.C., California, retained his title by defeating Bob Brady, San Francisco Elks Club, in the final. The doubles crown went to Frank Gluckler and David Pahl of New York, who previously had won national Y.M.C.A. honors.

In the national one-wall tournament at Brighton Beach, Brooklyn, in July, Victor Herschkowitz, New York, took singles honors then combined with A. Wolfe, Brooklyn Central Y.M.C.A., to win the doubles.

—THOMAS V. HANEY

HAWAII. A territory of the United States consisting of some 20 islands, 8 of which are inhabited, in the North Pacific Ocean about 2,091 miles from San Francisco. The principal islands of the group are: Hawaii (4,030 sq. mi., pop. 70,871 in 1946); Maui (728 sq. mi., pop. 45,336); Oahu (604 sq. mi., pop. 358,911); Kauai (555 sq. mi., pop. 34,689); Molokai (260 sq. mi., pop. 5,258). Total area of 8 principal islands: 6,435 square miles. Capital, Honolulu, 268,913 inhabitants in 1947.

Population. As of June, 1948, the population was 540,500, an average density of 84 per square mile. Of the total population 466,480 or 86.3 percent are citizens. The largest single racial group is the Caucasians who constitute 33.4 percent of the total. The second largest is the Japanese with 32.6 percent of the total. In 1940 the Caucasians had only 24.9 percent and the Japanese 37 percent of the total. During a period of eight years the Caucasians increased from 106,381 to 180,480, an increase of 69.6 percent, while the Japanese increased from 157,990 to 176,280, an increase of only 11.6 percent. The percentage of other racial groups also shows considerable change, the Puerto Ricans having increased by 18 percent and the Hawaiians and part-Hawaiians by 24.6 percent.

Education. The public schools of the Territory are operated by a single school board consisting of seven members. The school system is made up of 185 schools comprised of elementary schools, intermediate schools and high schools. As of June, 1948, there was an enrollment of 83,347 pupils and an employed staff of 3,461. Total expenditures for the fiscal year ending June, 1948, were \$15,159,040. In addition, there is the University of Hawaii which in its organization and purpose is similar to the state universities of the mainland. It had an enrollment in 1948 of 4,346 and a faculty of 433. Public library service extends to all important localities of the Territory.

Production and Trade. The three most important products are sugar, pineapples, and coffee. In 1947 a total of 872,187 tons of sugar valued at \$108,439,000 were produced; 18,443,675 cases of canned pineapples and juice, which together with

fresh and frozen pineapples were valued at \$75,165,940; 7,250,000 lb. (green) of coffee valued at \$1,892,000. Fruits, vegetables, and miscellaneous crops amounted to \$8,829,000; livestock and poultry products to \$18,500,000. During 1947, 818 overseas vessels, representing a gross tonnage of 6,212,486, arrived at ports in Hawaii.

Hawaii purchased from the mainland United States merchandise valued at \$340,446,264 and sold to the mainland goods valued at \$181,330,471. Edible and animal products, vegetable food products, beverages, textile fabrics, and manufactured goods were the chief imports. Principal exports were sugar, canned pineapple, and coffee.

Transportation and Communication. Before World War II Hawaii depended almost entirely upon surface transportation for both freight and passengers. Ocean-going vessels of the United States, Canada, and Japan called regularly at the port of Honolulu. Disrupted by the war, this service has now been partially reestablished. The majority of passengers coming to and departing from Hawaii travel by air. Pan American World Airways, Northwest Airlines, and United Air Lines operate regular scheduled flights between Hawaii and the mainland. Overseas scheduled air service through Honolulu is provided by China National Aviation Corporation, British Commonwealth Pacific Airlines, Ltd., and Philippine Air Lines, Inc. Within the Territory the Hawaiian Airlines, Limited, makes 50 scheduled flights daily and flew 314,608 paying passengers a total of 2,116,108 air miles during 1947.

The Mutual Telephone Company of Hawaii provides telephone and radio-telephone service for the entire Territory and the 4 principal islands with the United States. Communication with other parts of the world is also provided. There are 8 commercial broadcasting stations.

Finances. Bank clearings in 1947 amounted to \$1,679,938,888. The volume of business transacted was \$1,092,080,323, an increase of \$109,262,962 over the previous year. Total territorial tax collections on business and otherwise amounted to \$54,240,000 as compared with \$42,356,209 for the previous year. The net bonded indebtedness was reduced to \$8,993,617. The net assessed valuation of real and personal property was \$737,450,986, the highest in the history of the Territory. Internal revenue collections for the fiscal year ending June 30, 1947 totaled \$107,651,471 as compared with \$105,865,662 in 1946.

Government. Hawaii has had over a century of experience in government—first under the monarchy, then under the provisional republic and, since 1900, as a Territory of the United States. The Organic Act, under which it is governed, was approved by the Federal Congress on Apr. 30, 1900. The head of the government is Ingram M. Stainback, who holds office by appointment of the President of the United States for a term of four years. The Governor appoints all department heads with the exception of the Secretary of the Territory, who is appointed by the President. The legislative branch of the government consists of a Senate of 15 members and a House of Representatives of 30 members elected by the voters of the Territory. The powers and prerogatives of this legislative body corresponds closely with those of mainland state legislatures. The judiciary consists of a supreme court and five circuit courts. All judges of these courts are appointed by the President of the United States. District magistrates are appointed by the Chief Justice of the territorial Supreme Court. Hawaii elects a delegate to Congress who has the right to debate and to serve as a member

of committees of the House but who has no vote.

Events, 1948. Statehood. At the time Hawaii was annexed to the United States and organized as a Territory, there was a general understanding that when the social and economic structure of the Territory warranted it, Hawaii would be admitted to the Union as a State. Through a period of a half-century the people of Hawaii have aspired to statehood. On 14 different occasions their elected representatives in the Legislature have petitioned Congress for Statehood, and in 1940 the people voted for statehood in a plebiscite by a majority of over two to one.

A bill was introduced (H.R. 49) in the House of the 80th Congress of the United States calling for immediate Statehood. This was adopted by a vote of 196 to 133 on June 30, 1948. Although there was a great deal of support for the bill when it was sent to the United States Senate, it was not permitted to come to a vote before that body, and consequently died with the 80th Congress. Plans were made immediately for reintroducing the bill in modified form in the 81st Congress.

—INGRAM M. STAINBACK

HAY. According to the Crop Reporting Board of the U.S. Dept. of Agriculture, as of December, 1948, the production of hay in the United States during 1948 was estimated at 99,846,000 tons. Of this amount alfalfa accounted for 34,083,000 tons, clover and timothy 29,309,000 tons, wild hay 12,848,000 tons, lespedeza 7,627,000 tons, soybean, cowpea, and peanut hay 3,358,000 tons, grain hay 2,867,000 tons, and miscellaneous kinds of hay for 9,754,000 tons.

In 1948 the yields of the principal producing States (in tons) were: New York 6,306,000, California 5,718,000, Wisconsin 5,501,000, Minnesota 5,145,000, Missouri 4,803,000, Nebraska 4,382,000, Iowa 4,046,000, Michigan 3,606,000, Illinois 3,567,000, Kansas 3,565,000, Ohio 3,516,000, South Dakota 3,443,000, Pennsylvania 3,430,000, North Dakota 2,975,000, and Montana 2,932,000.

HAYDEN FOUNDATION. Charles A. Foundation established in 1937. The founder, Charles Hayden, gave his residuary estate to establish this Foundation to assist needy boys and young men, stating in his will that he was "firmly convinced that the future of this nation . . . depends in no small part upon the young men of the United States and that if they receive proper training in boyhood and youth . . . and are encouraged in the manner of right and proper living . . . we shall rear a nobler race of men who will make better and more enlightened citizens, to the ultimate benefit of mankind."

Charles Hayden was particularly interested in boys' clubs, boys' camps, and similar projects dealing with underprivileged boys, and for the time being most of the Foundation's activities are devoted to that type of aid, and as the will suggests, preference is given to the metropolitan areas of Boston and New York.

During the eleven years of operations ended Sept. 30, 1948, the Foundation has contributed \$13,637,000 for the above purposes and at that date there was approximately \$50 million in the Fund. Officers: President, J. Willard Hayden, (85 Water Street, Boston 7, Mass.); Executive Vice President and Treasurer, Edgar A. Doubleday; Vice President, Erle V. Daveler. Administrative offices: 25 Broad St., New York 4, N.Y.

HEATING AND VENTILATING. Most significant to those in the heating and ventilating industries and to

consumers as well was the changing picture of the nation's fuel supply. Trouble in the Middle East, which cut off oil imports, and boom development of the domestic oil-burning market brought home to consumers, producers, and government officials alike the fact that this country does not have the natural crude oil resources to support a refining capacity adequate for peacetime fuel needs, to say nothing of military emergency.

A secondary blow to fuel oil supply is the catalytic cracking process which turns more crude into gasoline and leaves less for heating plants. The United States, however, has a practically inexhaustible supply of coal and lignite. A logical conclusion was that solid fuel resources should be exploited—hence the pleas of Secretary of Interior Krug for an elaborate program of development of synthetic liquid fuels from coal. Hence, too, the steps taken by private industry to develop those fuel resources which are abundant. President Truman signed into law a bill authorizing a three-year extension of the Interior Department's program for development of synthetic fuels, chiefly from coal and oil shales. The bill authorized appropriation of \$30 million.

Significant of the changing pattern of fuel supply was erection of two multimillion dollar plants for conversion of either natural gas or coal to synthetic gasoline and oil. One plant in the Hugoton gas field of southwestern Kansas is owned by Stanolind Oil and Gas Co., a wholly owned subsidiary of Standard Oil of Indiana.

At Brownsville, Texas, another installation of the same type is a joint project of eight companies which have set up Carthage Hydrocol, Inc., to operate it. It will consume 50 million cu. ft. of oxygen and 90 million cu. ft. of natural gas daily to synthesize 7,000 barrels of oil products and 150,000 pounds of chemicals. Oxygen in such quantities had never been produced before, but feasibility of the idea was demonstrated by two plants for extracting oxygen from the air.

The U.S. Bureau of Mines and Bethlehem Steel both set up successful variations of the German Linde-Frankl process which can extract a ton (24,000 cu. ft.) an hour of oxygen from air. Effective use of the vast lignite deposits of the Dakotas and Montana became a possibility upon completion of test runs of a Bureau of Mines pilot plant at Grand Forks, N.D.

More than 900,000 million tons of lignite (almost one-third of total solid fuel reserves in the United States) in these three states is a potential source of manufactured water gas made by a process set up in the plant. This plant represents the first successful attempt to manufacture water gas by a continuous process in an annular vertical metal retort, according to James Boyd, Bureau of Mines director. The Bureau of Mines dedicated a new \$3 million synthetic fuels laboratory and pilot plant at Bruceston, Pa. Coal-to-oil conversion by both the Fischer-Tropsch and Bergius processes will be studied at the plant.

A second and larger underground coal gasification test at the Gorgas, Ala., mine of the Alabama Power Co. was launched under contract signed at midyear by the company and the U.S. Bureau of Mines. Tests will continue for a full year and will cost about \$411,000. The company will provide engineering and operating services at cost and the experiment will involve some 300 acres of Pratt seam coal averaging 40 inches in thickness. Last year's experiment at Gorgas showed that combustion could be maintained and controlled, that coal in place could be gasified completely, and that roof

rock would become plastic, expand, and settle down behind the burning coal face without cutting off the air or gas. Gas obtained was of lower heating value than desired, and new trials will go deeper in an effort to avoid dilution by leaking air.

Natural gas made strides in the fuel market as Texas Eastern pushed capacity of the Inch lines from 140 million cu. ft. a day toward its goal of 433 million cu. ft. daily delivery to ten eastern utilities. Total expenditures for new lines by natural gas transmission companies was planned to exceed half a billion dollars. A 1,200-mile pipeline from the Texas-New Mexico natural gas fields to the Los Angeles Area, cooperative venture of the southwestern gas companies, was completed at a cost of \$70 million.

The Federal power Commission approved application of Trans-Continental Pipe Line Co. for construction of a 1,840-mile pipeline to bring Texas natural gas to the Philadelphia, New Jersey, and metropolitan New York areas. Condition of approval was that the line must be completed before Oct. 1, 1950. In an effort to assure adequate handling of peak loads by natural gas lines already pushed to near capacity, the American Gas Association and the U.S. Bureau of Mines have embarked upon a cooperative research project to find means of removing nitrogen from natural gas and thereby increasing the heating quality of the remaining gas.

A pilot plant has been completed at Amarillo, Texas, and various physical and chemical means of nitrogen removal will be tested. Automatic domestic heating equipment which burns natural gas in mild weather and switches automatically to fuel oil in severely cold weather was developed by the Midwest Research Institute on a project sponsored by The Gas Service Co. of Kansas City, Mo. Equipment is intended to relieve peak loads of natural gas lines and to forestall consequences of oil shortage. Midwest will license manufacturers on a non-exclusive basis.

Development of equipment for burning extremely fine sizes of coal resulted in an upsurge in the reclamation of anthracite fines from river beds where it has been dumped as a waste product from mines over the years. Over a million tons a year of this so-called river coal now reach the market.

Anthracite silt, the hitherto unusable fines which have been accumulating at mine heads for years, will be converted to gas and liquid fuels by adaptation of a German process for utilization of brown coals. About 200 million tons of anthracite silt are available now.

The largest capacity circulating system ever built for firing pulverized coal was put into regular standby service at the Independence, Kan., plant of the Universal Atlas Cement Co. System will grind and fire 18,250 lb. of coal in three kilns at once when natural gas supply is interrupted.

Smokeless burning of bituminous coal received the attention of Bituminous Coal Research, Inc., in experiments resulting in development of a new low pressure heating boiler said to meet requirements of the most stringent anti-smoke ordinances. Boiler is a gravity-fed, magazine type unit which operates successfully on the natural draft of average chimneys. It was made available to manufacturers by BCR in cooperation with Batelle Memorial Institute.

A study of 12 electrically heated houses in the Tennessee Valley showed heating costs for resistance heating installations averaging from 0.6 to 1.4 cents per cu. ft. of enclosed space for the season. Fuel (electric) bills were from \$45 to \$116

for four to six rooms. The average bill was \$70.50, and average electric rate was 0.58 cents per kwh. One heat pump installation in Chattanooga ran up a heating bill of \$52.69 and the house was cooled the rest of the year for \$17.54. This house had a calculated heat loss of 66,000 b.t.u. per hr at a 70° F. temperature difference, inside to outside. A Knoxville house of 6,384 cu. ft. (23,400 b.t.u. per hr loss at 70° F. difference) was heated by U.S. Rubber's conductive ceiling panels for \$53.79. Degree days in the area run from 3,200 to 3,900.

Dr. Maria Telkes of Massachusetts Institute of Technology spent winter weekends in a \$20,000 house with a \$3,000 solar heating unit that traps and stores heat in chemical bins. The heat trap is built into the roof and consists of 800 sq. ft. of black sheet metal behind two glass plates. Air is circulated behind the sheet and conducted to bins containing Glauber's salt which melts at 90° F. The heat of fusion of the salt increases its heat storing capacity within the range of temperatures required for house heating. From the bins, heat is released as required by living spaces. To offset cloudy days, enough heat can be stored for ten days supply in normal weather.

Promise of a new tool for air cleaning was held in development of new and powerful generators of high frequency sound. Sound at inaudible frequencies is capable of coagulating smokes and mists. The problem of developing high energy densities of sound at high frequency has been solved by at least two siren-like devices, and Ultrasonics Corp. of Boston is putting sound to work precipitating lampblack, and recovering chemical dusts.

A quarter-mile of heated roadway was installed as a cooperative snow-melting venture by nine families living on Snake Hill in Belmont, Mass. Residents formerly had been frequently isolated by heavy snow falls. The U.S. Department of Commerce Construction Division reported that 52 percent of houses erected in 1948 have warm air furnaces for heating. —WILLIAM B. FOXHALL

HOCKEY, Field. The World Festival of Women's Hockey at Amsterdam in May provided the highlight of the sport in 1948. A strong English team captured the title by defeating The Netherlands lassies, 1-0, in a thrilling final. Scotland placed third, Ireland fourth and the United States fifth. Prior to participating in this world championship tourney the United States women toured Britain for a long series of exhibitions.

Men's field hockey enjoyed a marked revival featured by a number of international contests. The climax came at the Olympic Games when 18 teams saw action. India carried off premier honors. See OLYMPIC GAMES. —THOMAS V. HANEY

HOCKEY, Ice. Toronto, after winning the National League title, swept over the Detroit Red Wings in four straight games to keep the Stanley Cup, emblematic of world supremacy. The Maple Leafs won the coveted trophy for the third time in four campaigns by halting the Red Wings, 5-3, 4-2, 2-0, 7-2.

Toronto gained the final play-offs by eliminating Boston while Detroit reached the cup round by defeating the New York Rangers. The champions lost only the fourth game to Boston, bowing by 3-2, but took the required four out of seven from the Bruins, 5-4, 5-3, 5-1 and 3-2. Detroit stopped the Rangers, 2-1, 5-2, only to have the Rangers come back and tie their semi-final series, 3-2, 3-1. Then the Red Wings clinched a place in the finals by nipping the New Yorkers, 3-1, 4-2.

The National League enjoyed its most successful campaign at the gate, a total of 2,519,278 fans paying to see the scheduled 180 games. These figures represent a gain of 116,168 over the previous season's attendance.

Scoring honors were won by Elmer Lach of the Montreal Canadiens, whose 62 markers led Buddy O'Connor, Rangers' star, by only one point. O'Connor, however, came in for his share of glory by winning the Hart Trophy as the league's most valuable player and the Lady Byng Trophy, awarded for sportsmanship and gentlemanly conduct combined with playing ability. The two prizes carried a league bonus of \$2,000, and the Rangers gave the young ace a \$500 bonus for being runner-up in scoring.

Turk Broda, Toronto star, was the recipient of the Vezina Trophy, awarded to the goalie with the best defensive record. Broda allowed only 143 tallies. The Calder Trophy for the season's best rookie went to Jimmy McFadden, Detroit center.

A heated dispute as to who would represent the United States in the Olympic Games marred the amateur campaign, the Amateur Athletic Union and U.S. Amateur Hockey Association both claiming the right to select Uncle Sam's sextet. The result was that the United States had no official entry in the Winter Olympics, the big prize going to the strong Royal Canadian Air Force team. See OLYMPIC GAMES.

National A.A.U. honors went to Colgate, which defeated the Holling Press team of Buffalo, 7-4, in the final. Other major clumpings were: American League, Cleveland Barons; United States League, Houston Huskies; U.S. Amateur Hockey Association (senior), Toledo Mercurys; Metropolitan League, Manhattan Arrows; National Collegiate Athletic Association, Michigan; International Intercollegiate, Toronto University; Allan Cup, Edmonton Flyers.

—THOMAS V. HANEY

HONDURAS. A republic of Central America. Apart from a small coastal lowland and river valley, the country is essentially mountainous. The north has a wet tropical climate, and dry winters prevail in the south and southwest.

Area and Population. Area: 59,161 square miles. Population: 1,240,000 (1947 est.); 1,200,542 (1945 census). About 80 percent are mestizos, 10 percent Indians, 8 percent of European descent, and 2 percent Negroes. Principal cities are Tegucigalpa (capital), San Pedro, Sula, and La Ceiba.

Education and Religion. The Constitution guarantees freedom of worship. Roman Catholicism is the predominant religion. Spanish is the official language. About 40 percent of the population is illiterate. In October, 1947, there were 136,031 children of school age, of whom 70,360 were receiving education from 2,292 teachers. There were 26 secondary schools, with 4,316 pupils, and a National University with 484 students.

Production. Honduras is essentially agricultural. The latest available production figures, in quintals (crop year 1945-46) are as follows: bananas, 14,111,000; corn, 3,547,000; plantains, 2,971,000; indian corn, 1,033,000; sugar cane, 507,000 and beans, 359,000. In the same year, the cattle population amounted to 98,000 head, and 83,000 hogs. Industrial production is limited to consumer goods. Production in pounds for 1946 was as follows: wheat, 9,042,000; soap, 3,328; lard, 712,000, and coconut oil, 266,000. Other items of consumer goods include matches, shoes, carbonated beverages, drill cotton, and straw hats. Silver was produced in the amount of 2,986 troy ounces.

Foreign Trade. In the fiscal year ending Sept. 30, 1947, total exports were valued at \$17.5 million and imports at \$20.1 million. Principal exports were bananas (27 percent), silver, coconuts, coffee, cattle, and tobacco. Chief buyers were the United States (62.8 percent), El Salvador, Canada, Nicaragua, and Mexico. Most important exporters to Honduras are the United States (76.2 percent), El Salvador, Mexico, the Netherlands West Indies, and Peru.

Transportation. There are 830 miles of railway and 780 miles of highways. In his last message to Congress (December, 1947), the President reported the construction of 126 bridges and also the addition of 14 miles of railway. Latest data show 1,342 motor vehicles registered, 12,000 radio sets, and 1,943 telephones.

Finance. In the budget estimates for 1947-48, revenue and expenditures were equally estimated at 15,819,006 lempiras (a lempira equals \$0.49). Foreign debt on June 30, 1947, was 2,323,875 lempiras; internal debt, 10,353,464 lempiras. Exchange control is established in Honduras. Foreign exchange holdings in December, 1947, amounted to \$14 million.

Government. Honduras is a centralized republic of 17 departments and one territory, under the constitution of 1936. Legislative power is vested in a unicameral Congress of Deputies, composed of 45 members. Executive power is exercised by a President assisted by a Cabinet. On Oct. 10, 1948, Dr. Juan Manuel Gálvez was elected President, to take office on Jan. 1, 1949.

Events, 1948. Most significant event of the year was the announcement made by dictator Tiburcio Carías Andino that he would give up the political control he had held since 1932. Noteworthy were the general elections, and the diplomatic tension between Honduras and the other Central American and Caribbean countries.

Electoral Campaign. Presidential elections were scheduled to take place on October 10, and President Carías stated that all parties would have full guarantees. The government-backed Nationalist Party held a convention that nominated Dr. Juan Manuel Gálvez to the presidency. He was Carías' Minister of War. Julio Lozano, ex-Ambassador to the United States, won the Vice Presidential nomination. It was rumored early in the year that Angel Zúñiga Huete, Carías' old opposer, would return to his country to be the Liberal Party candidate. The electoral campaign was conducted under strong Government pressure in favor of the Nationalist candidate. Although the Government stated that suffrage would be compulsory, it was expected that many would abstain from voting, if full guarantees were not given the opposition. In several anti-administration rallies, the army intervened and used force against the public.

Election Results. Shortly before the elections, the Liberals withdrew their candidate, Zúñiga Huete, because: (1) guarantees were insufficient for the normal development of an honest campaign; (2) the Government had prevented the organization of Liberal committees in several places; and (3) in most of the villages, Liberal Party councils had been dissolved by Government pressure. The elections were held as scheduled on October 10, and no serious disturbances were reported. Many voters cast blank ballots, and many more abstained from voting. As was expected, Gálvez' victory was immediately announced by the Government. It was generally felt that the Liberals would revolt if help from neighboring countries, Guatemala in particular, could be obtained.

International Front. Toward the end of the year, there were rumors that a revolutionary force, called the Caribbean Legion, was being organized in Guatemala in order to overthrow the Carias regime. This plan was said to be part of a large movement in which political exiles residing in Costa Rica, Cuba, and Venezuela were planning to do away with the governments not only of Honduras, but also of Nicaragua and the Dominican Republic, where severe dictatorships exist (see NICARAGUA and the DOMINICAN REPUBLIC). Honduras signed the Charter of the Americas at the Ninth Inter-American Conference at Bogotá.

—MIGUEL JORRÍN

HONG KONG. A British crown colony in southeastern China at the mouth of the Canton River. It consists of the island of Hong Kong (area about 32 sq. mi.), the Kowloon peninsula and the New Territories. Total area of colony, 391 square miles. Population (1947 est.): 1,750,000 of whom some 7,000 were British subjects and 2,500 were Indians. Capital, Victoria (pop. 447,829). Education (1947): 101,921 students attended the various government, grant, subsidized, and private schools. Two training colleges had 97 students and the University of Hong Kong 276 undergraduates.

Production and Trade. Chief industries are shipbuilding and fishing. The manufacture of paint, cement, matches, and tobacco also is carried on; chief agricultural products are sugar and rice. Hong Kong is a free port and a port of call for trans-Pacific steamers, approximately 500,000 tons of shipping entering and clearing the port monthly. Foreign trade (1947): imports \$141,550 million; exports \$HK1,217 million.

Finance. Budget estimates for 1947-48 placed revenue at \$141,600,000; expenditure at \$HK109,834,355. The 1945-46 budget was estimated to balance at \$HK150 million (\$HK3.970 equals U.S.\$).

Government. The colony is administered by a governor assisted by an Executive Council and a legislative council of appointed members, both official and unofficial. Proposals for a constitutional revision were approved during 1947, providing for an unofficial majority in the legislative council, and for the creation of a municipal council of 30 members, 15 to represent the Chinese and 15 the non-Chinese sections of the population. Governor: Sir Alexander Grantham.

HORSE RACING. Citation, bred and owned by Warren Wright's Calumet Farm, wrote the story of the turf for 1948. The bay colt, competing on nine different tracks during his arduous campaign, was hailed by many as the greatest racer of all time. Trained by H. A. (Jimmy) Jones and ridden most of the time by Eddie Arcaro, Citation went to the post for 20 races and won 19, his sole loss coming after a bit of bad racing luck.

During the year, Citation earned \$709,470, for a two-season total of \$865,150. Citation now ranks second on the world roster of all-time money winners, Styrmie holding the top spot with \$911,335. However, Styrmie's imposing total was compiled in 126 starts while Citation has gone postward only 29 times and won 27 races.

Citation started the year by capturing the famous "triple crown," the Kentucky Derby, the Preakness, and the Belmont Stakes, and quickly added to his feats by annexing the Empire Gold Cup in an international field. The lone setback for the Calumet star came at Havre de Grace, Md., in April when he lost to Saggy in a 6-furlong sprint

after being carried wide at the head of the stretch by a horse named Hefty.

Other turf leaders of the campaign were Blue Peter, 2-year-old colts; Myrtle Charm, 2-year-old fillies; Miss Request 3-year-old fillies; Conniver, Coaltown, Mr. Busher, Styrmie, and Shannon II. Blue Peter, the property of Joseph M. Roebling and a grandson of the immortal Man o' War, was the champion 2-year-old of the year and won the fastest Futurity ever run.

Johnny Longden became the first American jockey to ride more than 3,000 winners early in the year and went on to again capture honors as the leading rider. Calumet Farm was first among money-winning stables, with its Jimmy Jones gaining the first spot among trainers on the basis of winnings. Willie Molter led the trainers in number of winners saddled.

Although New York had 196 days of racing, its longest campaign on record, both attendance and wagering fell off, a trend that seemed to be nationwide. Unofficial reports showed a slanting of approximately 8 percent in pari-mutuel betting and 5 percent in turf audiences. However, almost 25 million fans pushed their way through the nation's turnstiles to pour \$1,555 million into the betting machines.

Harness racing on the other hand had one of its best campaigns of all time, attracting 6,530,417 fans to the pari-mutuel plants, where they wagered \$193,781,300 for a 64 percent attendance gain and 41 percent betting advance over the previous year.

Demon Hanover, owned and driven by Harrison Hoyt, won the classic Hambletonian at Goshen, N.Y., blue-ribbon event of the harness world. Hoyt became the first amateur driver to ever win the event. However, a poll of turf experts selected Rodney, who won the \$50,000 Golden West Trot, among other big races, as the harness "Horse of the Year." Bi Shively was at the reins for most of Rodney's outings.

—THOMAS V. HANEY

HOUSE OF REPRESENTATIVES. See CONGRESS, U.S.

HOUSING EXPEDITER, Office of. This office has responsibility for the administration of rent control and certain controls remaining in effect from the Veterans Emergency Housing Program.

The Expediter's office was established formally in January, 1946, with authority to develop programs and recommend legislation for the provision of housing at moderate prices and rentals for veterans and to make use of existing Federal authority to that end. The Office of Housing Expediter and the National Housing Agency were shortly consolidated and had joint responsibility for administering the Veterans Emergency Housing Program subsequently authorized by Congress. Following the termination of most of this program, the two agencies were separated in January, 1947, with the Expediter retaining responsibility for continuing emergency controls and for coordinating certain other phases of the program. In May, 1947, administration of rent control was transferred to this office.

The first rent control legislation in December, 1941, was authorized only for the District of Columbia and in the following month, under the Emergency Price Control Act, it was authorized for all other areas in the United States where it was determined to be essential for the successful prosecution of the war. Under this legislation the Office of Price Administration froze rents in designated defense-rental areas at the rates being charged at specific dates for the accommodations and accom-

panying services, made adjustments when conditions warranted, established ceilings for accommodations made available for rent after the freeze dates, prohibited evictions except under certain conditions, and prosecuted violations. The ceiling rents applied to all rental accommodations in the defense-rental areas, including family dwellings, hotels, rooms, tourist courts, trailers, and the like.

In June, 1947, Congress extended rent control, but with modifications reflecting its expressed intent to terminate such control as soon as feasible. In March, 1948, rent control was further extended, with minor modifications, until Apr. 1, 1949.

Rent control under the 1948 Act is authorized only for family dwellings or other housekeeping accommodations and for rooms in rooming and boarding houses in defense-rental areas designated under the Emergency Price Control Act. Excluded are hotels with customary hotel services, tourist courts, trailers or trailer spaces, tourist homes serving transient guests exclusively and individual rooms in private dwellings containing not more than two paying guests outside the immediate family, all of which were at one time under rent control. Also excluded are new housing accommodations completed or made available by conversion after Feb. 1, 1947 (except that contracts for the rental of housing accommodations to veterans and their families which were assisted by allocations or priorities under the Veterans Emergency Housing Act remain in force) and other accommodations not rented for any continuous 2-year period between Feb. 1, 1945 and Mar. 30, 1948.

For the accommodations still under control the ceilings established under the Emergency Price Control Act remain in effect with important exceptions.

The Expediter is required to make individual or general adjustments to remove hardships and correct inequities. He is authorized to remove in whole or in part maximum rents in any defense-rental areas if he determines the need for control no longer exists, and is required to make periodic surveys to determine such needs. He is required also to follow recommendations of local advisory boards established in defense-rental areas as to decontrol, general adjustments of maximum rents, and operations of local rent offices, if the recommendations have been appropriately substantiated and certain requirements as to hearings, notices, and records have been complied with. If he does not approve these recommendations, he is required to submit all essential documents to the Emergency Court of Appeals which enters a final judgment and decree as to the case.

Under leases which fulfill certain requirements of the Housing and Rent Act of 1948, landlords and tenants may voluntarily agree to increases up to 15 percent over the maximum rents otherwise in effect.

As of June 30, 1948, rent control covered approximately 14 million housing accommodations, exclusive of those subject to the District of Columbia Act. Since June 30, 1947, the effective date of the Housing and Rent Act of 1947, 56,257 units had been decontrolled and rent adjustments had been made on 485,856 other accommodations by administrative action. A total of 1,660,906 individual adjustments had been made since rent control began. Voluntary lease agreements had provided increases averaging 15 percent on 2,000,000 accommodations.

A further responsibility under the Housing and Rent Acts of 1947 and 1948 is the enforcement of the veterans' preference in the occupancy of new

housing accommodations completed prior to Apr. 1, 1949. Single family dwellings may not be offered for sale, prior to the expiration of 30 days after completion, for occupancy by persons other than veterans and their families and may not be offered to others at prices lower than those available to veterans. Similar restrictions apply to the rental and rental rates of new housing accommodations made available for rent (except to transients).

The Office of Housing Expediter also investigates complaints of veterans regarding violations of provisions as to construction and other matters for housing assisted by allocations and priorities under the Veterans Emergency Housing Act and, if substantiated, pursues corrective measures and prosecution.

—TICAR E. WOODS

HOUSING IN THE UNITED STATES. Homebuilding activity continued at a high level in the United States during 1948. By late summer, however, housing starts had begun to decline, giving some evidence that homebuilding was showing the effect of high construction costs and prices. With the large need for new housing and for a continued high volume of home construction, legislation was directed toward a lowering of housing costs and toward the encouragement of building for rental purposes, the housing shortage being felt most acutely in the rental and low-cost sales market.

Residential Construction. Preliminary estimates of nonfarm residential building place the volume of new homes started in 1948 at about 925,000 family dwellings, almost 9 percent more than the 849,000 dwellings started in 1947. Most of this increase occurred during the first seven months of the year, when each month's volume of homebuilding was substantially in excess of that estimated for the corresponding month of 1947. By August, however, the trend reversed, and 1948 homebuilding for that month and for the three succeeding months fell below the volume reported for August, September, October, and November, 1947, the latest months for which figures are available at this writing.

Home Financing. Home mortgage lending continued at a high volume. However, throughout the third quarter of the year there were indications that real estate lending involving loans of \$20,000 or less was leveling off. During the first nine months of 1948 a total of 1,894,000 loans were recorded in amounts of \$20,000 or less. The aggregate amount of these loans is \$8,769 million. This represents an increase of 1.7 percent in the number and a gain of 5 percent in combined amount as compared with activity during the corresponding nine months of 1947. However, in July, August and September, the number of loans recorded in each month was less than the number recorded in the corresponding month of 1947, and in September the dollar amount of these loans fell below that reported in September.

Home Loans to Veterans. Home loan activity under the Loan Guaranty Program of the Veterans Administration dropped sharply during the first nine months of 1948. The 281,737 guaranteed home loans aggregating almost \$1,551 million that were closed during the January-September period represented a decline of 31 percent in number and 37 percent in amount in comparison with lending under this program during the corresponding nine months of 1947.

Increase in FHA Mortgage Insurance. During the first nine months of 1948 a total of 228,545 new homes was started under FHA first compliance inspection. This represents an increase of more than

50 percent over the number started under FHA inspection in the first nine months of 1947 and accounts for approximately one-third of all nonfarm housing started. In the first nine months of 1947, FHA inspected starts accounted for less than one-sixth of this nonfarm total.

FHA mortgage insurance written under Titles II and VI of the National Housing Act (covering the financing of both new and existing small homes and new rental housing projects) totaled \$1,970,140,987. This nine-month volume is 57 percent greater than the volume of mortgage insurance written by FHA during the entire 12 months of 1947, which in itself had been a record year.

More than one-fourth of the face amount of this mortgage insurance was written on new rental housing projects in the first nine months of 1948—all such rental project mortgages being insured under the liberal Title VI provisions. This represented an increase of 40 percent above the volume of rental housing mortgage insurance written in the entire 12 months of 1947.

The foregoing paragraphs relate largely to the expansion of FHA insuring operations under the authority of the National Housing Act as it existed at the beginning of the year. Substantial changes were to be made in the nature and scope of these functions in the course of the Special Session of Congress in the Summer of 1948. A discussion of these changes is contained in a subsequent section on legislation.

Estimates of Housing Need. The large volume of housing production that has taken place in this country since the war has been a partial reflection of the enormous need for housing that had been accumulating throughout the depression and war years. In March, 1948, the Joint Congressional Committee on Housing estimated the quantitative need for dwellings over the next 12 years at between 15,450,000 and 17,300,000 nonfarm units and from 2,400,000 to 3,600,000 units of farm housing. To meet these needs, the Committee estimated, it would be necessary to build at an average annual volume of from 1,300,000 to 1,500,000 nonfarm homes and from 200,000 to 300,000 farm houses.

The housing need, as measured by the severity of shortage and the condition of occupied structures is concentrated in urban areas and is the more pressing among two overlapping population groups, i.e., among those seeking rental housing and among the nonwhite population. The intensity of the housing shortage among the nonwhite population, and the higher incidence of overcrowding and substandard housing conditions were indications of nonwhite housing need. With the rise in incomes of nonwhites their demand for housing likewise has increased.

The institution of legal action to bring court enforcement of restrictive covenants based upon race was an outgrowth of this increased housing demand among nonwhites. In the Spring of 1948 one of these cases was appealed to the Supreme Court of the United States, at which time it was ruled that the courts could not be used to enforce restrictive covenants based upon race, thereby removing a formidable legal barrier which had confronted minorities seeking housing.

Housing Costs. Although a large volume of housing was started in 1948, a substantial portion of this construction was being built at cost-price ranges beyond the financial reach of a great portion of the homeseeking public. In that respect, our housing production was not tailored to meet our housing need.

Homebuilding costs had continued their upward course throughout 1948. By September, 1948, the cost of residential construction was two and one-fifth times as high as it was in the prewar year of 1939. In the first nine months of 1948 the cost of residential building had increased almost 7 percent. Higher materials prices and higher wage rates had both contributed to this rise. Wholesale prices of all building materials, which in 1947 had averaged 200.7 percent of the 1935-1939 base index in 1947, had increased to 227.7 percent by September, 1948.

By 1948 most of the shortages in materials which had aggravated the rise in building costs immediately after the war had been overcome, although a few items, such as nails and cast iron soil pipe, were still difficult to obtain in a number of localities. The continuing rise in costs in 1948 was primarily the result of the heavy demand for construction of all types.

Attack on High Building Costs. Among other things, apprehension as to the effects of the rise in building costs upon the economy in general as well as upon future trends of homebuilding had led to the establishment of the Joint Congressional Committee on Housing in 1947. Following extensive hearings conducted throughout the country, the final majority report of this committee was submitted on Mar. 15, 1948. Most of the Committee's recommendations were incorporated in amendments to S.866, the Taft-Ellender-Wagner bill, a long-range housing bill then pending before the Senate.

In its final majority report, submitted in March, 1948, the Joint Committee on Housing recommended a three-way approach to the housing cost problem. First, it made a series of recommendations designed to lower costs by increasing the efficiency of the homebuilding industry. Second, it made recommendations to encourage a larger volume of lower-cost sale and rental housing without contributing to further increases in costs, and, third, it recommended approval of a Federally-aided program of locally-sponsored public low-rent housing to meet the housing need of low-income families whose housing needs cannot be met economically by private enterprise.

Housing Legislation. The investigation conducted by the Joint Committee on Housing which culminated in the report of March, 1948, was the latest in a long series of Congressional investigations of the over-all housing problem. Stemming from earlier investigations long-range housing legislation had been introduced for the purpose of expanding and adapting the Federal role in housing to the nation's housing needs, and this pending legislation was amended to incorporate most of the Joint Committee's recommendations. This bill was passed by the Senate, but failed to reach the House floor before the adjournment of the 80th Congress in June, 1948.

However, during the course of the Special Session of Congress in the Summer of 1948, most of those provisions of the Taft-Ellender-Wagner Bill which provided aids to private homebuilding were enacted in the Housing Act of 1948. This Act, however, omitted those provisions of the Taft-Ellender-Wagner Bill which would have authorized Federal aids to communities for the clearance and redevelopment of slum areas, and Federal aid for locally-sponsored low-rent public housing. The Housing Act of 1948 also omitted the aids to rural housing contained in S.866, and provided for only limited housing research by the Federal government.

The Housing Act of 1948. The Housing Act of 1948

concentrated the more liberal aids of sale housing on new construction, particularly low-cost construction; continued and expanded aids to rental and cooperative housing projects, and provided means for the encouragement of a lowering of building costs. The concentration of the more liberal financing aids for sale housing was accomplished by amending Titles I and II of the National Housing Act, which provide authority for the permanent program of FIIA home loan insurance.

Title I was amended to increase the maximum loan amount on mortgage financing new small home construction under this title to \$4,500. These loans, which may be made for terms as long as 20 years and 5 months, bear interest at $4\frac{1}{2}$ percent plus $\frac{1}{2}$ of 1 percent insurance premium and may cover a mortgage up to 95 percent of property valuation.

Title II, Section 203 of the National Housing Act was amended to provide expanded aid for the financing of new construction, particularly low-cost building. On new single-family homes valued up to \$6,300, loans up to 95 percent of property value may be insured, such loans bearing terms of up to 30 years. On homes valued up to \$11,000, loans may be made up to 90 percent of the first \$7,000 of value plus 80 percent of the valuation in excess of \$7,000. In effect, this places a maximum insured loan limit of \$9,500 on a home valued at \$11,000.

One- to four-family housing valued at more than \$11,000 is eligible for loans up to 80 percent of value, with a maximum valuation under Section 203 of \$20,000, making the maximum loan insurable under this section not more than \$16,000. Mortgages insured under Section 203 bear interest at $4\frac{1}{2}$ percent plus $\frac{1}{2}$ of 1 percent insurance premium. With the exception of the 30-year loans on new low-cost homes, loans under Section 203 financing new housing may have terms up to 25 years. The maximum term on mortgages on existing homes insured under this section is 20 years.

All mortgage insurance relating to the financing of one- to four-family structures is now being written under Title I and II—the permanent programs of FIIA home loan insurance based on economic soundness (long term value). Emergency authority to insure loans on one- to four-family structures on the basis of "current necessary costs" under Title VI expired at the end of April, 1948, and was not included in the reconstituted version of Title VI contained in the Housing Act of 1948.

Aids for rental housing and cooperatively-owned projects were contained in amendments to Section 207, Title II and Section 608, Title VI, as well as in the new Title VII of the National Housing Act.

Section 207 of Title II, which permits the insurance of loans up to \$5 million for the financing of new rental housing projects was liberalized as to the maximum loan size by substituting an average limitation of \$8,100 per family unit for the previous limitation of \$1,350 per room. Loans insured under this title are permitted to bear a ratio of up to 80 percent of the value of the project, based on long-term value. However, where such loan is made for the purpose of financing a non-profit cooperative housing project, the maximum ratio is 90 percent of value. In the case of a loan to a veterans' cooperative, the maximum ratio is established at 95 percent of the replacement cost on the basis of replacement costs prevailing on Dec. 31, 1947. For cooperative projects permits, the cost limit may be either \$1,800 per room or \$8,100 per family unit, whichever is the more

appropriate to meet the financing requirements of the cooperative. Further amendments to this title authorize the insurance of loans up to \$50 million to Federal, State, or municipal instrumentalities or limited dividend housing corporations for the purpose of financing projects restricted by law as to rents, charges, capital structure, rate of return or methods of operation.

Section 608 of Title VI was reconstituted in modified form to permit the insurance of loans financing new rental housing projects. Loans under this Title may be made up to 90 percent of replacement costs prevailing at the end of 1947. The loan may not exceed on the average \$8,100 per family unit. Furthermore, it was required that as a condition to mortgage insurance, the borrower agree that there would be no discrimination against families with children in the selection of tenants.

The other major aid to rental housing contained in the Housing Act of 1948 was FIIA authority to insure yields on equity investments in new rental housing constructed for the moderate-income market. Title VII, which was added to the National Housing Act, authorizes FIIA to approve rents estimated to produce a net annual return of $3\frac{1}{2}$ percent on insured projects, and to insure an annual amortization of 2 percent of the original investment plus an annual return of not more than $2\frac{3}{4}$ percent of the outstanding investment. This provision is designed to encourage large aggregates of long-term investment capital, such as funds of insurance companies and trusts, to look to rental housing projects as one field of long-term, secure investment.

To encourage a lowering of basic construction costs, the Housing Act of 1948 reconstituted and expanded Section 609, Title VI of the National Housing Act to permit FIIA insurance of production loans to manufacturers of prefabricated housing and to insure dealer credit where the production loan was FIIA insured. A new section, Section 611, was added to Title VI to allow the insurance of construction advances to builders for the purpose of financing the construction of developments of 25 or more single-family houses in order to encourage large-scale cost saving operations and techniques. Insured loans to builders may not exceed \$6,000 per home or 80 percent of the value of the homes, whichever is the lesser amount.

In addition to the credit aids intended to lower basic building costs, a program of housing research was authorized to promote standardized and improved design and production methods relating to materials production and site construction. This program of research, which was placed under the administration of the Housing and Home Finance Agency, was also intended to promote the adoption of standardized and improved local building codes.

Other provisions of the Housing Act of 1948 afforded a government secondary market for GI guaranteed home loans by expanding the authority of the Federal National Mortgage Association. FNMA was already serving as a government secondary market for FIIA insured mortgages.

Other Housing Legislation During 1948. In addition to the Housing Act of 1948, the second session of the 80th Congress enacted the following laws affecting housing:

Public Law 464 continued national rent control with some modifications until Apr. 1, 1949. Under this law, local rent control boards are empowered to authorize rent increases or to decontrol rents in their areas, subject to the approval of the Housing Expediter. Landlords and tenants may enter into voluntary agreements for leases providing up to

15 percent increase in rents. Rents were decontrolled for transient accommodations and for certain categories of housing including that constructed after February, 1947, with the exception of priorities-aided rental housing for veterans of World War II.

Public Law 702 provided plans at government expense for the building of special-type homes for veteran paraplegics and for payment by the Federal government of one-half the cost of such homes, subject to a maximum dollar limitation per house on the government's contribution of \$10,000.

Public Law 796 authorized the Federal government to transfer temporary government-owned housing used for student veterans and located on land owned or controlled by educational institutions to the educational institutions without monetary consideration.

Public Law 689 permitted the sale of permanent-type government war housing to veterans for their own occupancy at a purchase price not in excess of the cost of construction, or the long-term market value, whichever is the lesser amount.

Scope of Government Activity in Housing. The scope of Federal government activity in the housing and related fields in 1948 covers aids to private enterprise as well as assistance to educational institutions and local government bodies. It includes programs intended to stimulate a greater volume of new residential construction and regulatory functions such as control of rents and the enforcement of regulations affecting priorities-aided veterans housing.

The administrative structure of Federal housing functions places the major activities in a single housing agency, the Housing and Home Finance Agency, which was established by Presidential Reorganization Plan No. 3 on July 27, 1947. The Housing and Home Finance Agency consists of the Office of the Administrator and three constituent agencies: the Home Loan Bank Board, the Federal Housing Administration, and the Public Housing Administration.

The Housing and Home Finance Administrator is responsible for the coordination of the operations of these constituent agencies, for the determination of policy governing the management and disposition of Federally-owned war and veterans emergency housing, and for the administration of the program of technical research intended to promote the standardization of local home building codes and the standardization of dimensions and methods of assembly of home building materials.

The Home Loan Bank Board is responsible for the supervision of the Federal Home Loan Bank System, a reserve banking pool serving home financing institutions; the management of the Federal Savings and Loan Insurance Corporation, which insures savings in insured savings and loan associations up to \$5,000 per investor; for the chartering and supervision of Federal savings and loan associations; and for the liquidation of the Home Owners' Loan Corporation, a relief agency organized during the depression to halt the wave of foreclosures of distressed home mortgages.

The Federal Housing Administration is responsible for administering the programs of home loan insurance and equity yield insurance authorized in the National Housing Act of 1934, as amended.

These include the Title I programs of insurance of lending institutions against loss on property improvement loans and the insurance of mortgage loans financing the construction of small homes; the Title II program applying to the insurance of mortgage loans financing one- to four-family hous-

ing and large-scale rental and cooperative housing projects; the Title VI programs covering the insurance of mortgages on large-scale rental projects, the insurance of production and dealer credit extended to manufacturers and distributors of prefabricated housing, and the insurance of construction advances to large-scale builders using modern building methods; and the Title VII program of insurance of minimum yields on equity-financed new rental housing for moderate income families.

The Public Housing Administration, the third constituent agency of the Housing and Home Finance Agency, is responsible for administering the program of Federal loan and subsidy aids to locally sponsored public low-rent housing projects provided under the U.S. Housing Act of 1937, and for carrying out the HHFA Administrator's policies for the management and disposition of Federally-owned war housing and emergency housing for veterans. PHA is also responsible for the disposition of Federally-owned subsistence homesteads and Greenbelt towns.

Through the various programs of the Public Housing Administration, the Federal government had a direct interest in more than 800,000 dwelling units in mid-1948, three-fourths of which consisted of war housing and postwar veterans' emergency housing, and over 189,500 units of which were low-rent housing units operated under provisions of the prewar low-rent housing program.

The National Housing Council, created by Presidential Reorganization Plan No. 3, was organized for the purpose of promoting the fullest use of the Federal government's housing resources, assuring the conformity of housing policy with the overall fiscal and economic policy of the government, and avoiding duplication and overlapping functions.

The Administrator of the Housing and Home Finance Agency serves as chairman of the National Housing Council. Other members of the Council are the Chairman of the Home Loan Bank Board, the Commissioner of the Federal Housing Administration, the Commissioner of the Public Housing Administration, and the following officials or their designees: the Secretary of Agriculture, the Secretary of Commerce, the Administrator of Veterans Affairs, and the Chairman of the Board of the Reconstruction Finance Corporation.

The housing functions of agencies and departments other than the Housing and Home Finance Agency and its constituent agencies are as follows:

The Department of Agriculture has primary interest in matters related to farm housing as part of its general farm programs.

The Department of Commerce collects housing and construction statistics, tests building materials, and administers export controls.

The Department of Labor collects and analyzes residential construction statistics and conducts programs to increase the volume of construction labor.

The Veterans Administration is responsible for handling GI home loan guarantees as part of the general GI home loan program under the Servicemen's Readjustment Act.

The Reconstruction Finance Corporation directs the Federal National Mortgage Association, which provides a secondary market for eligible FHA-insured and VA-guaranteed loans. RFC also has authorization to make plant and equipment loans to manufacturers of prefabricated housing.

The Office of the Housing Expediter (q.v.), except for a few remaining functions carried over from the Veterans Emergency Housing Program of 1946-1947, is primarily concerned with administration of rent control.

—JACK H. BRYAN

HOWLAND ISLAND. A mid-Pacific island (0° 49' N. and 176° 40' W.), belonging to the United States. It lies athwart the main steamship lanes and the Pan American Airways route from Honolulu to New Zealand and Australia. An aerological station was established during 1936 by the United States Department of the Interior.

HUNGARY. A central European republic. Area: 35,902 square miles. Population in 1947 was estimated at 9,368,000. In 1947 the population of Budapest was estimated at 1,073,444. Magyars comprise about 93 percent of the total population, Germans 5 percent, and Slovaks 1 percent.

Education and Religion. In the school year 1946-47 there were 1,173 infants' schools with 2,544 teachers and 77,031 infants; 4 training colleges for teachers of infant schools; 364 higher elementary schools, to be absorbed next year into general schools (for age-group 6-14), numbering 7,497, with 380,000 pupils; 175 middle schools; 37 agricultural and horticultural schools; 26 industrial and 75 commercial (secondary) schools; and 58 elementary school teachers' training colleges. In 1946-47 there were 44 colleges with about 25,000 students, 26 theological colleges, 3 academies of law, and 9 other academies. School attendance is compulsory for children from 6 to 14.

According to the 1941 census, Roman Catholics comprise 65.7 percent of the population, Helvetican Evangelicals (Calvinist) 20.8 percent, Augsburg Evangelicals (Lutheran) 6 percent, Jews 4.3 percent, and Greek Catholics 2.3 percent.

Production. Preliminary figures for the yields of chief crops in 1946-47 in quintals: wheat, 10,019,743; rye, 4,430,108; barley, 3,813,310; oats, 1,781,128; potatoes, 14,090,986; maize, 18,300,920; sugar-beet, 9,953,741; turnips for fodder, 18,727,159. In 1946 there were 424,364 horses, 1,222,835 cattle, 396,910 sheep, and 1,716,828 pigs. The forest area in 1946 was 2,682,300 acres. In 1947 the average monthly production in thousands of metric tons: coal, 88; lignite, 6.6; crude petroleum, 47.5; iron ore, 20.3; pig-iron and ferro-alloys, 25.3; steel ingots and castings, 49.7.

Foreign Trade. In 1948 (9 months actual, 3 months estimated) imports were valued at 1,958.2 million forints (1,459.2 million in 1947); exports, 2,395.3 million forints (1,045.2 million).

Communications. In 1946 there were 18,508 miles of road and 5,416 miles of railway. A total of 2,947,348,906 passengers were carried on state railways, and 1,659,494,797 metric tons of freight. There were 79,010 telephones in 1947.

Finance. Budget (1947): revenue 4,045 million forints; expenditure 4,420.7 million forints. Note circulation on Oct. 31, 1948, was 2,586 million forints. The cost of living index number for September, 1948, was 377 (all items) and 537 (food). (1937 = 100)

Government. The Hungarian Republic was proclaimed on Feb. 1, 1946, by the National Assembly. In the preamble of the new Constitution, among other things, it is stated that "The National Assembly, elected on the basis of universal, equal, direct and secret suffrage, will now in the name of and by virtue of the authority vested in it by the Hungarian people, constitute that form of government which best complies with the will and interests of the nation: The Hungarian Republic." For changes in 1948, see *Events* below.

Events, 1948. In the "cold war" between East and West, Hungary's full incorporation into the Moscow-oriented bloc of "People's Democracies" was consummated in the course of 1947 (see *YEAR*

Book, Events of 1947, pp. 226-228). Subsequent developments during the centenary year of the revolutionary upheavals of 1848 were marked by the consolidation of the new order, by closer ties with the U.S.S.R. and sharper conflicts with the U.S.A., and by further steps toward "socialism" of the Eastern variety.

Magyar Economics, Moscow-Style. The diminution of marketable farm produce which almost invariably accompanies the division of large estates into small farms troubled the new Hungary no less than its neighbors. In 1945 over 600,000 peasant families, comprising 3,000,000 persons, shared in the partition of the lands of the magnates. Any program for collectivized agriculture on the Soviet model was certain to meet with widespread peasant resistance. The Government therefore moved cautiously, relying for increased rural production on agricultural cooperatives, popular education, and promotion of improved methods of cultivation.

By November, however, Communist leader Matyas Rakosi was declaring that farmers must learn to see the advantages of the *kolkhoz* form of agriculture. "Class war" against "kulaks" or more prosperous peasants was hinted at. Yet the Communist Party still shrank from coercive measures, lest the economic and political price of open conflict with the peasantry should prove too great for the regime to pay.

With 80 percent of industry nationalized, the economic structure of urban Hungary came more and more to resemble that of the U.S.S.R., despite flourishing private business in small-scale manufacturing and in the distributive and service trades. For all practical purposes, strikes were outlawed. Wages were frozen. Production norms were set. "Stakhanovite" methods of raising output were introduced, along with piece-work, bonuses, and other incentives.

The three-year plan of reconstruction and industrialization inaugurated in the summer of 1947 was officially declared to be progressing successfully. In December, 1948, Communist Erno Gero, Minister of Communications, announced that Hungary would overcome the effects of the American loan embargo and of U.S. restrictions on trade, through heavier taxation to meet the needs of the proposed five year plan, to begin Jan. 1, 1950. This program contemplated State investments of 25,000 million forints (\$2,000 million), roughly equal to estimated total national income for the year 1949. In spite of a substantial one-way flow of goods toward the East on reparations account and through Soviet participation in joint companies, urban workers shared in the benefit of increasing production, relative prosperity, and expanding social services. The extent to which political reorientation and demands for new sacrifices provoked popular dissatisfaction remained uncertain and highly controversial.

Politics by Purge. In Hungary, as elsewhere in the Soviet sphere, official preoccupation with "spies" and "subversives" was even greater than in the U.S.A. On March 8, the Social Democratic Party (cleansed of dissidents in February and led by Arpad Szakasits) voted unanimously at its 37th annual congress to merge with the Communists in a United Workers' Party. On July 30, President Zoltan Tildy resigned, following the announcement that his son-in-law, Victor Csoroky, former Minister to Egypt, had been arrested for espionage and high treason. "It is not political disagreement that made me resign," asserted Tildy. "A person who belongs to my close entourage committed a great crime against the interests of the Hungarian

State Republic and our people, and consequently I feel that I cannot expect the confidence of the Hungarian people that is indispensable."

On August 3, as 58 members of opposition groups walked out of Parliament, Deputy Premier and former bricklayer Arpad Szakasits, now chairman of the United Workers' Party, was elected President, unanimously and by acclamation. Csoroky was subsequently found guilty of conspiring with émigrés and Anglo-American agents to overthrow the government. He was hanged on December 7.

The Cabinet remained, in form, a coalition of the Smallholders, National Peasants, and United Workers' Party. Premier Lajos Dinnyes resigned on December 8, following a purge of "bourgeois elements" in his party and sharp criticism directed against him for insufficient vigilance. He was succeeded in the premiership by Istvan Dobi, Minister of Agriculture and a leader of the Smallholders.

Church and State. Parliament adopted a bill in June nationalizing all church-conducted schools, comprising some 5,000 institutions or 60 percent of all schools. Joseph Cardinal Mindszenty bitterly fought the measure and excommunicated all Catholic Deputies who voted for it. The Cabinet reported that the measure would be fully enforced, since the education of children in church schools was intolerable.

The Cardinal accused the regime of "falsehoods, deceit, and terror." Local riots in mid-June led to the arrest of a number of priests. By the close of the year the Cardinal himself was being threatened with prosecution. The Roman hierarchy, however, was not wholly united against the regime. Father Istvan Balogh, leader of the Independent Democratic Party, urged compromise with Communism and inferentially criticised the Cardinal for making the secularization of education the central issue of conflict. The Calvinist church sponsored complete cooperation with the State.

On December 27, Cardinal Mindszenty was arrested on charges of high treason, espionage, and black-market speculation. This action, to be followed by a sensational trial, precipitated a new crisis of major proportions between the Budapest regime, on the one hand, and the Vatican and the U.S.A. on the other.

Relations With the U.S.S.R. On Feb. 18, 1948, Radio Moscow announced the signature by Molotov and Dinnyes of a 20-year mutual defense treaty, providing for joint action against any future aggression by Germany "or any other State which may unite with Germany directly or in any other form." A *New York Times* report of May that the unpublished Soviet-Hungarian trade agreement of Dec. 9, 1947, had been concluded by the Finance Minister without the approval of the Cabinet was promptly denied by the Budapest authorities.

The rift between the Kremlin and Marshall Tito led to Magyar-Yugoslav friction during the summer and autumn. Rakosi and other Communist leaders denounced the Belgrade regime for its deviation from orthodoxy. On August 27 Belgrade formally accused Hungary of seeking to instigate revolution in Yugoslavia. Budapest replied on September 1 that the charge was "unfriendly, untrue, and malevolent" and intended to "disguise the anti-Soviet policy of the present leaders of the Yugoslav Communist Party." By late October Belgrade was accusing Budapest of using "Nazi police methods" against the Yugoslav Legation in an attempt to compel its members to break with Tito. Ten members of the staff were expelled from Hungary early in November.

Relations With the U.S.A. Budapest's collaboration with Moscow inevitably meant conflict with Washington. When asked in December by Homer Bigart of the *New York Herald Tribune* why the press distorted news of America, Zoltan Vas, head of the Supreme Economic Council, replied (according to Bigart): "It is necessary to teach our people to hate the United States so long as there is danger of attack from the West."

American films starring prominent "Red-baiting" actors were banned in January. Elizabeth P. Pallos, American-born secretary to AP correspondent Jack Guinn (expelled in November, 1947), was brought to trial, with thirteen other defendants, on charges of plotting with foreign agents against the regime. On February 16 she was sentenced to six months in jail for failing to report allegedly subversive activities to the police.

In April Gen. Clay expelled the two Hungarian missions in the U.S. zone of Germany in retaliation for Budapest's failure to reply satisfactorily to protests at interference with U.S. repatriation officials in Hungary, looting of an American repatriation train by Soviet soldiers, and the beating and arrest, by Hungarian police, of a Hungarian girl aboard the train. On July 9 the State Department denounced the Hungarian Government for arresting persons who listened to the "Voice of America." A fortnight later 43 Hungarians, including officials and army officers, were brought to trial at Szeged on charges of setting up an underground organization to cooperate with a future American military occupation of Hungary. On September 20 George Bannentine and Karl Ruedemann, American heads of the Hungarian-American Oil Co. (MAORT, owned by Standard Oil of N.J.), were arrested on charges of sabotaging oil production. Upon their expulsion a week later, they asserted that they had been coerced by bad treatment into signing false confessions. The State Department sharply denounced the arrest and protested strongly in December against Hungarian seizure of the properties of MAORT. On December 15 Budapest accused the U.S. of responsibility, threatened nationalization of the properties, and told the State Department to "mind its own business."

Meanwhile the second postwar conference of the Women's International Democratic Federation met in the Magyar capital early in December, with the Congress of American Women represented by Muriel Draper and some thirty other U.S. delegates. The Federation adopted resolutions condemning American foreign policy and praising the achievements of the "Peoples' Democracies." As a sequel to his unsympathetic accounts of the conference and of other developments in Hungary, Homer Bigart was expelled on December 10.

Hungary in Exile. The ranks of anti-Communist émigrés were reinforced during the year. Karl Peyer, right-wing Socialist, fled to Germany in late November, 1947. When Admiral Horthy attended the February wedding of an American Consul in Munich, Yugoslavia protested on the ground that he was a war criminal—a view which Washington repudiated. Horthy was reported in November to be preparing to go to Argentina. In June Aurel Alth, Hungarian Consul General in New York, resigned his post in protest at Communist control of his Government. In October Josef Garzuly, Chargé d'Affaires in Vienna, did likewise, following the example of Lázlo Bartók, former Minister to Austria. Rustem Vambery, Minister to the United States, resigned his post in May and was succeeded by Andrew Sik, a Communist Party member. Dr. Vambery died on October 26.

Among exiled Hungarians the most prominent were former Premier Ferenc Nagy, Dezso Sulyok, Imre Kovacs, and Karl Peyer. They found it difficult to formulate a united program of action against the Budapest regime. A plan to establish a "government-in-exile" in Paris fell through in April because of the alleged insistence of the French General Staff that it be headed by Gen. Ferenc Farkas, a former Nazi living in the American zone of Germany. In August an "Executive Committee of Hungarian Social Democrats in Exile" was founded in Switzerland. Peyer challenged its authority and summoned a rival Social Democratic Congress to meet in Paris in October. Unity among the exiles seemed remote. Their return to power in Hungary appeared to be even more remote.

See AUSTRIA, CZECHOSLOVAKIA, YUGOSLAVIA, ROMANIA, POLAND, the U.S.S.R., and UNITED STATES. Consult also J. P. Montgomery, *Hungary: The Unwilling Satellite* (Davin-Adair, N.Y., 1947); Ferenc Nagy, *The Struggle Behind the Iron Curtain* (Macmillan, N.Y., 1948); Andrew Gyorgy, "Political Trends in Eastern Europe," *Foreign Policy Reports*, Nov. 15, 1948; Endre Hevesi (Ed.), *This Is Hungary* (Budapest, 1948); and H. P. A. Schoenfeld, "Soviet Imperialism in Hungary," *Foreign Affairs*, April, 1948.

—FREDERICK L. SCHUMAN

ICELAND. An island republic in the North Atlantic, situated 200 miles east of Greenland and about 540 miles northwest of Scotland. Area, 39,709 square miles, only one fourth of which is habitable. Population in 1947, 132,750. Populations of the chief towns: Reykjavik (capital), 51,011; Akureyri, 6,180; Hafnufjörður, 4,050.

Production. Fishing is the chief industry; it supports nearly 30 percent of the population directly. In 1946, the fish catch amounted to 368,000 tons, well below average. About 36 percent of the inhabitants live by agriculture, sheep raising, and dairy farming. Potatoes, turnips and hay are the chief crops. There are very few trees and only low grade coal deposits, but extensive peat deposits are used for fuel and many buildings in Reykjavik are heated by water from hot springs.

Foreign Trade. Exports in 1947 were valued at 290,400,000 crowns, while imports amounted to 519,600,000 crowns. The official selling rate of the crown was: 6.5050 crowns = U.S.\$1. The cost of living index (1937 = 100) rose from 319 in January, 1948, to 324 in October, 1948.

Government. Iceland has been an independent republic since June 17, 1944, when the union with Denmark was dissolved. Legislative power is exercised by the Althing, the oldest parliament in the world, established 930 A.D. The Althing consists of 52 elected members, one-third of whom are elected to the upper chamber by the whole Althing; the other two-thirds form the lower chamber. President of the republic: Sveinn Björnsson, who was elected on June 7, 1945, for a four-year term. Premier, Stefan J. Stefansson (Labor party), since Feb. 4, 1947.

—JOACHIM JOESTEN

IDAHO. A mountain State. Area: 83,888 sq. mi. Population: (July 1, 1948) 530,000, compared with (1940 census) 524,873. Chief city: Boise (capital), 26,130 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$39,982,000; total expenditure, \$37,183,000.

Elections. The 4 electoral votes, Roosevelt's in

1944, remained Truman's in 1948, who won a small majority over Dewey and Wallace. Democrat Bert H. Miller defeated incumbent Republican Henry C. Dworshak in a race for the U.S. Senate. Democrats and Republicans each got one seat in the lower house, a gain of one for the Democrats. There were no statewide contests for State office.

Officers, 1948. Governor, C. A. Robins; Lieut. Governor, Donald S. Whitehead; Secretary of State, J. D. (Cy) Price; Attorney General, Robert E. Smylie; State Treasurer, Lela D. Painter; State Auditor, N. P. Nickson.

ILLINOIS. An east north central State. Area: 56,400 sq. mi. Population: (July 1, 1948) 8,670,000, compared with (1940 census) 7,897,241. Chief cities: Springfield (capital), 75,503 inhabitants in 1940; Chicago, 3,396,808. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$438,745,000; total expenditure, \$399,689,000.

Elections. Democrats made a clean sweep of statewide races. Out of 4 million votes cast, Truman held a plurality over Dewey of about 60,000 and won the 28 electoral votes. Democrat Paul H. Douglas defeated incumbent Republican C. Wayland Brooks in the Senatorial contest; and the Democrats won 6 new seats in the House by capturing 12 to 14 now held by Republicans. Adlai E. Stevenson, Democrat, defeated incumbent Dwight D. Green in the gubernatorial race, and Democrats took the following offices: Lieutenant Governor—Sherwood Dixon; Secretary of State—Edward J. Barrett; Attorney General—Jvan A. Elliott; Treasurer—Ora Smith; Auditor—Benjamin O. Cooper.

Officers, 1948. Governor, Dwight H. Green; Lieut. Governor, Hugh W. Cross; Secretary of State, Edward J. Barrett; Attorney General, George F. Barrett; State Treasurer, Richard Yates Rowe; State Auditor, Arthur C. Lueder.

ILLUMINATION. Perhaps the most important event in the progress of illumination during the year was the June meeting of the International Commission on Illumination in Paris which marked the resumption of the interchange of knowledge after a 7-year wartime interruption. The approximately 300 delegates from some 20 nations considered many important items of standardization.

Improvements in existing types of lamps and introduction of some new types accompanied a continued growth in applications. An arc brightness intrinsically brighter than the surface of the sun was reached with superhigh-wattage mercury lamps on which work was done in England and in the United States. A typical lamp may be rated at 10 kw with a 100-millimeter-diameter quartz bulb operating at 705° C., and requires seals carrying as much as 250 amperes. Its importance lies in providing a small source that may supplement the carbon arc, particularly in studio projection work. At the other extreme, a one-watt fluorescent glow lamp was made available with a parallel-blade plug for insertion in any receptacle as a night light. Rated life is 10,000 hours, and average operating cost is three cents per month.

The tenth anniversary of the fluorescent lamp in the United States was observed on April 21. Total estimated sales in 1948 were 101 million units, compared to 79 million in 1947. New lamps recently announced include a 40-watt decorative lamp with a spiral marking which gives an interesting color pattern as the arc stream is seen

through the clear lines, a photographic lamp suitable for use with color film, and a 25-watt 33-inch lamp which starts at 115 volts and operates on 53 volts. With krypton gas filling and other improvements, an 85-watt lamp was developed having the same light output, life, and over-all dimensions as the older 100-watt lamp. As an aid to starting long slim lamps, a silicone coating was found to be satisfactory instead of a thin metallic strip that formerly was run lengthwise on the tube. The change improves appearance and removes the possibility of grounding.

A warm white or warm-tone fluorescent lamp in several sizes was announced in the United States which matches closely the color of large-wattage incandescent lamps having tungsten filaments. Another new tint is a "soft white" that may appear slightly less orchid than the original soft white. Slightly different tints are standard in Western Europe.

Experimental installations of fluorescent street lighting were made at widely scattered points—Tel Aviv, Buenos Aires, Dublin, and Nairobi among them—as the possibilities of this type of lighting continue to be explored. Experience gained in England, where the first recorded installation was made at Rugby two years ago, suggests spacings of from 80 to 150 feet, a mounting height of at least 25 feet, and an output of 7,000 lumens per unit, or 5,000 per 100 running feet. The English trials generally use three-light fixtures with 80-watt five-foot lamps. Depreciation of light output of the complete unit was found to be 38 percent after five months' service, and total operating cost per mile in London was found to be about \$2,000.

Cold-cathode fluorescent lighting was brought to the attention of the public in New York, N.Y., with the delivery of the first of an order of new subway cars having this type of lighting. Steps were taken toward standardization of length and to increase safety, since the high voltages used with these lamps may become hazardous under some conditions. Very modest trials of this type of lamp for street lighting were reported.

Sales of large lamp bulbs in the United States were estimated to total 880 million, an increase of about six percent over 1947. For a decade the sales curve has paralleled almost exactly the curve of total kw-hr sales, and now indicates per capita consumption in the United States of approximately six large lamp bulbs annually.

New luminaires for street lighting featured more accurate control of the distribution of light. A giant unit for whiteway lighting is designed for lamps up to 25,000 lumens, while another unit features a built-in photoelectric control. To simplify installations and provide flexibility, a universal street-lighting head or holder adaptable to any type of hood, globe, or reflector fitting was introduced by manufacturers in the United States.

Two voltage ratings, 600 volts for multiple and 5,000 volts for series, were established by industry standardization for street lighting service. Lamps in corresponding sizes for series and multiple service now have approximately equal mean lumens, and series sockets have been made interchangeable. Maintenance has been aided by mechanical improvements such as latch-on simplicity and stainless steel fittings.

Growth of airport lighting continued throughout the world, but was particularly stimulated in the United States, where a seven-year program was started which will include the lighting of 2,900 small airports; the first year saw 200 scheduled for completion. For airport use, neon tubes were pro-

duced in which the flash time and discharge can be controlled; with suitable reflectors, candlepowers in multiples of ten from 100 to 10 million, inclusive, may be obtained.

Colored filament lamps in which the color is supplied by a ceramic or glaze coating are becoming available and in some sizes are expected to replace former types of lamps having applied colors. Other lamps showed advancement in the application of white ceramic diffusing finishes and silvering. In England low-voltage projection lamps, for example, 12 volts and 300 watts, were made with the adjacent filament coils uniformly touching each other throughout their length. No arcing occurs with careful proportioning and a source having minimum area is produced. In the 6-to-8-volt class, several automotive-type sealed reflector-bulb lamps formerly in the 5 $\frac{1}{4}$ -inch diameter have become available in the 4 $\frac{1}{4}$ -inch diameter bulb.

Germicidal lamp sales in the United States were estimated to total 675,000 units for the year, with a power consumption exceeding 30 million kw-hr. A glass was developed with high transmission in the region of 2,537 angstroms. Evidence of general health benefits from prolonged exposure to mild amounts of short-wave ultraviolet radiation, in addition to the reduction or killing of micro-organisms, was found by investigators, notably in Sweden. Studies of these same benefits have been made in connection with poultry raising.

New fluorescent sun lamps were announced in 20-watt 24-inch and 40-watt 48-inch sizes, with outputs of 55,000 and 140,000 E-vitons, respectively, at 3,000 angstroms. They operate on the same accessories as the corresponding fluorescent lighting lamp. New ultraviolet-radiation measuring instruments also appeared. At least one permanent hotel installation was made using various types of lamps to duplicate sunshine qualities, colors, and intensities.

Ultraviolet radiation or so-called "black light" found a new use in the determination of the age and condition of eggs by the color of fluorescence. New sources included a portable battery-operated hand lantern employing a miniature fluorescent lamp and a 250-watt mercury projector unit self-contained in a cubical box.

Experimental work was conducted with the object of correcting the color of high intensity mercury arc lamps by the use of phosphors on the outer bulb, or on the enclosing glassware, and by the addition of the metal cadmium to the mercury. The latter was investigated for color motion-picture photography.

The rare gas xenon has been used in flash tubes of 10-, 20-, and 30-centimeter lengths in which large amounts of power, of the order of 300 joules, are released at each flash at a frequency of 100 cycles per second. To aid photographers in the indoor production of outdoor scenes with true color and appearance, a photographic flash tube was made available with 750 million peak lumens.

Wide application, notably on roadside advertising signs, of a highly reflective paint based on a military development has brightened the night-driving scene. Tiny glass spheres are contained in the paint, which is laid over a fluorescent tape; the day and night colors may be different.

Progress was reported in plastics and glass, which are closely associated with lighting. Large sectional glass panels in metal frames, tinted sheet prismatic glass, and sheet plastic that can be edge-joined in tongue-and-groove fashion were among the new forms. For the formation of a surface for a searchlight mirror, a process was developed for

depositing vaporized aluminum on a metal base and protecting the specular surface with vaporized and deposited silicon monoxide. An interference filter with low reflectivity in the visible spectrum and high reflectivity in the infra-red may be produced by depositing a semitransparent film of aluminum on silicon-monoxide-coated mirrors. As the year closed, the General Electric Company announced the development of a new silica inside finish providing a diffusion of light superior to that from regular inside frosted lamps and said to represent "the most outstanding improvement in filament lamps since the introduction of the first successful inside frosted lamp in 1925."

—C. ROSS HENNINGER

IMMIGRATION, EMIGRATION, AND NATURALIZATION.

The immigration and nationality laws are administered by the Immigration and Naturalization Service of the United States Department of Justice.

Immigration and Emigration. The continued favorable economy in the United States, and improved transportation facilities were factors leading to further increases in immigration to the United States in the year ended June 30, 1948. Immigrant aliens, those admitted for permanent residence, numbered 170,570 as compared with 147,292 admitted during the preceding fiscal year.

Quota immigrants are those admitted under the established quota from European countries, Asia, Africa, and the Pacific, and colonies, dependencies, and protectorates of European countries. The total authorized quota for all countries is 153,929. The numerical limitations established in 1930 have remained substantially the same since that time. In 1930, quotas were practically filled but in the 18 years since until the year ended June 30, 1948, there has been no time when the quotas were even half completed. In the past fiscal year, more than three-fifths of the quota was filled.

The increase in quota immigration came partially from the increase in displaced persons admitted who could make use of Germany's comparatively large quota, and in a considerable increase in the number of quota immigrants making use of the British quota.

Nonquota immigrants are natives of the independent countries of the Western Hemisphere, their wives and unmarried children under 18 years of age; wives, husbands, and unmarried children of citizens of the United States; ministers and professors who enter to carry on their professions and their wives and children; and other classes. The number of nonquota immigrants admitted in the past fiscal year, 78,044, is only slightly above the figure for last year. Wives of citizens and natives

TABLE 1—NONQUOTA IMMIGRANTS ADMITTED
(Years ended June 30)

	1948	1947
Total nonquota immigrants admitted.....	78,044	76,501
Husbands of citizens.....	647	579
Wives of citizens.....	30,086	31,698
Unmarried children of citizens.....	6,097	6,462
Natives of nonquota countries.....	37,506	35,309
Wives and children of natives of non-quota countries.....	462	331
Ministers, their wives and children.....	1,592	1,336
Professors, their wives and children.....	997	534
Women who had been citizens.....	136	91
Other nonquota classes.....	521	251

of nonquota countries are the principal groups admitted. Of the 37,506 natives of nonquota countries admitted 19,423 were from Canada, 8,060 from Mexico, 3,760 from the West Indies, and most of the remainder from South and Central America.

Numbered among the immigrants were 20,755 displaced persons admitted under the President's Directive of Dec. 22, 1945, and 21,954 war brides. The number of immigrant aliens admitted, showing the countries in which they last resided and the number of resident aliens departing for future permanent residence abroad are shown in Table 2.

TABLE 2 IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED BY COUNTRIES OF LAST OR FUTURE PERMANENT RESIDENCE
(Years ended June 30)

Countries	Immigrant		Emigrant	
	1947	1948	1947	1948
All countries.....	147,292	170,570	22,601	20,876
Europe.....	83,535	103,514	11,153	10,258
Austria.....	1,545	2,271	26	53
Belgium.....	2,465	2,011	250	244
Denmark.....	51	119	12	13
Czechoslovakia.....	2,053	2,310	254	145
France.....	900	1,335	216	285
Germany.....	1,445	5,823	427	285
Italy.....	25	49	2	2
Finland.....	511	492	54	119
Poland.....	7,285	6,550	1,148	953
Germany.....	13,900	19,308	301	134
Great Britain (England and Wales).....	20,147	21,357	1,793	2,262
Scotland.....	2,962	4,501	290	320
Ireland.....	679	612	30	51
Greece.....	2,370	2,250	470	340
Hungary.....	803	917	32	32
Italy.....	13,806	16,076	1,851	1,498
Lithuania.....	28	92	...	2
Netherlands.....	24	180	...	2
Norway.....	2,936	3,999	408	354
Sweden.....	1,129	1,711	51	87
Poland.....	1,967	2,447	509	577
Portugal.....	715	2,417	55	127
Rumania.....	633	890	705	304
Spain.....	93	273	8	10
Sweden.....	260	404	280	323
Switzerland.....	1,818	2,290	409	610
U.S.S.R.....	1,770	2,026	311	318
Yugoslavia.....	170	84	873	345
Other Europe.....	221	478	88	192
Asia.....	593	1,220	255	267
China.....	5,823	10,730	2,861	3,220
India.....	3,191	7,203	2,249	2,287
Japan.....	432	263	113	205
Pakistan.....	131	423	67	143
Palestine.....	1,272	1,150	113	182
Other Asia.....	797	1,700	329	313
Canada.....	23,167	24,788	861	1,055
Newfoundland.....	875	697	37	110
Mexico.....	7,558	8,384	884	840
West Indies.....	6,728	6,912	2,426	1,024
Central America.....	3,380	2,671	308	380
South America.....	3,004	3,046	1,216	1,862
Africa.....	1,284	1,027	261	363
Australia & New Zealand.....	2,821	2,218	270	586
Philippines.....	910	1,168	1,085	615
Other Countries.....	7,811	6,356	449	544

Aliens admitted for temporary stay and resident aliens returning from a brief sojourn abroad totaled 476,006, a 30 percent increase over last fiscal year. This number comprised 16,822 government officials, 4,059 members of international organizations, 284,983 visitors for business or pleasure, 124,780 transients, 32,464 returning residents, 11,914 students, 984 other classes.

Importation of agricultural or industrial laborers is authorized after a showing has been made that there is a need for the labor, that prevailing wage rates in the area of employment will be paid, and that United States residents will not be displaced by the aliens employed.

Approximately 11,000 agricultural laborers were imported during the year from Mexico and 12,000 already temporarily employed in the United States under previous arrangements were recontracted for continued employment. Under informal arrangements made by employers through the British West Indies Central Labor Organization, authority was granted for the importation of some 10,000 British West Indian agricultural laborers. Authority, also,

was granted for the admission of 2,000 Canadian unskilled farm laborers and industrial workers.

Emigrants and Nonemigrants. During the fiscal year 1948, there were 448,218 aliens (exclusive of border-crossers, Mexican agricultural laborers, and crewmen) who departed from the United States. Only 20,875 were emigrants, i.e. aliens who left a permanent residence in the United States for a permanent residence abroad; 25,597 nonemigrants were resident aliens who planned to return to the United States after a temporary stay abroad; and 401,746 were aliens who had been admitted as visitors, persons in transit, and others temporarily admitted.

The greatest volume of travel into and out of the United States from foreign countries occurs at the Canadian and Mexican borders where aliens and citizens frequently make daily or weekly crossings and recrossings. During the fiscal year 1948, there were 78,362,207 such entries of which 38,892,545 were aliens and 39,469,662 were citizens.

Alien Crewmen. There were 63,494 vessels and 85,122 planes inspected by immigration officers on arrival in the United States. The number of crewmen examined on arrival increased by 9.9 percent over last year to 1,937,874 made up of 922,349 aliens and 1,015,525 citizens. There were 4,353 deserting crewmen, a number, no doubt, expanded by the practice of bringing overcrews, or crews considerably larger than the normal number employed to man ships.

Deportation and Voluntary Departures. With greater emphasis placed on ridding the country of aliens illegally present in the United States came an increase in the number of deportations and voluntary departures, as 20,371 aliens were deported and 197,184 aliens who had been adjudged deportable were allowed to depart in the fiscal year 1948. Concerted efforts have been made to ferret out aliens engaged in subversive activities resulting in the issuance of warrants of arrest in a number of cases.

Border Patrol. During the fiscal year 1948 Border Patrol officers patrolled 10,095,461 miles, examined 1,863,409 conveyances, and questioned 5,529,685 persons. They also seized 215 automobiles and trucks and 26 other conveyances, the value of all seizures amounting to \$234,125. Apprehensions again approached the 200,000 figure as compared with the approximate 35,000 in 1929 which was considered to be a peak year for illegal entries for the period 1924 to 1943. The majority of the apprehensions were of Mexicans coming to engage in agricultural labor. The demand for such labor, and the difference in economic conditions, of course, create the incentive which results in the coming to the United States of such large numbers of aliens.

The efforts of the Border Patrol are largely taken up by the illegal entry of Mexican farm laborers, and more effort must be directed to the task of preventing the illegal entry of other classes of aliens. The smuggling of such other aliens ceased to be only a potential problem and during the year began to be a real one.

Aliens and Alien Registration. All aliens remaining in the United States for 29 days or longer are required to register under the provisions of the Alien Registration Act of 1940. The initial registration for aliens began on Aug. 27, 1940, and continued through Dec. 26, 1940. During this period 4,889,770 aliens registered as residents of continental United States. Factors determining the alien population are net immigration, naturalization, and mortality. By using the true figures for immigration and naturalizations, and estimating the alien mortality for the period, it is possible to arrive at the

approximate alien population. On such a basis it is estimated that there were approximately 3 million resident aliens in continental United States on June 30, 1946. This estimate does not take into account those here temporarily; that is nonimmigrants, border crossers, and imported laborers.

Naturalization. The number of noncitizens who were naturalized in the fiscal year 1948 was 70,150, the lowest number since 1911. Of the number naturalized, 69,080 were civilian and 1,070 military naturalizations. The number of noncitizens naturalized during the year ended June 30, 1948, is shown in the table.

TABLE 3—ALIENS NATURALIZED DURING YEAR
ENDING JUNE 30, 1948

Country of Former Allegiance	Total	Civilian	Military
All countries.....	70,150	69,080	1,070
Austria.....	1,285	1,283	2
Belgium.....	12,361	12,157	204
Canada.....	3,890	3,806	84
China.....	763	707	56
Czechoslovakia.....	1,459	1,448	11
Eire.....	1,146	1,136	10
Germany.....	7,486	7,416	70
Greece.....	1,683	1,660	23
Hungary.....	1,271	1,264	7
Italy.....	9,452	9,334	118
Mexico.....	1,895	1,768	127
Philippines.....	5,768	5,635	133
Poland.....	5,136	5,107	29
U.S.S.R.....	3,143	3,107	36
Yugoslavia.....	858	847	11
Other Countries.....	12,584	12,405	179

Throughout the year, 2,887 petitions for naturalization were denied, as compared with 3,953 denied during the previous year. There were 163 judgments of naturalization revoked and certificates of naturalization canceled during the year, an increase of 69 as compared with the preceding year. In 150 cases the Foreign Service of the Department of State initiated the action because naturalized citizens of this country became permanent residents of foreign countries within five years of naturalization. In 13 cases the Immigration and Naturalization Service initiated action because naturalization was otherwise fraudulently or illegally procured.

During the last year there was an increasing number of cases of naturalized persons who had resided abroad for many years, had failed to make a timely return to the United States, and hence had lost their citizenship under Section 404 of the Nationality Act of 1940. These persons returned to this country after the time limited by law, and being admitted as aliens, sought to have their status as citizens reestablished on the basis of meritorious facts. The policy has been adopted of regarding such persons as not having been expatriated if their return to the United States before Oct. 14, 1946, was prevented by conditions of travel beyond their control.

Aside from this ground, nationality may be lost involuntarily through conviction of treason, conviction by court-martial of desertion from the armed forces in time of war, and departing or remaining away from the United States to avoid training and service in the land or naval forces. It may be lost voluntarily by naturalization in a foreign state, taking an oath of allegiance to a foreign state, and the performance of certain acts identified with citizenship of a foreign state. During the year, 6,779 persons thus lost United States nationality.

Petitions for naturalization were filed by 68,265 persons, a decrease of 23 percent from the 1947 fiscal year when 88,802 petitions were filed. Declarations of intention or "first papers" filed increased

to 60,187. There were 87,771 declarations filed in the fiscal year 1947; 28,787 in 1946; 31,195 in 1945; and 42,368 in 1944.

Alien Enemies. Alien enemies include natives, citizens, denizens, and subjects of countries with which the United States was at war—Japan, Germany, Italy, Hungary, Rumania, and Bulgaria.

At the beginning of the fiscal year 1948 there were 203 Germans and 384 Japanese under alien enemy proceedings. Two Germans were received during the year, bringing the total to 589. During the year seven Germans and one Japanese departed voluntarily under removal orders issued by the Attorney General pursuant to the Presidential Proclamation of July 14, 1945, 23 Germans and 17 Japanese were released outright, one German died.

Pursuant to an order by the United States District Court for the Northern District of California issued on Sept. 8, 1947, all of the Japanese who renounced their United States citizenship, pursuant to Section 401(i) of the Nationality Act of 1940, as amended, were released pending final disposition of the court action.

At the close of the fiscal year there were 174 Germans and 27 Japanese still under orders of removal issued by the Attorney General of which number 161 Germans were in custody, and the balance were on parole. The alien enemy family-internment camp at Crystal City, Tex., which was the only one remaining in operation during the fiscal year was closed on Feb. 27, 1948.

New Legislation. The Act of July 1, 1947 (public law 146), provided for membership and participation by the United States in the International Refugee Organization and made general reference to the authority of the IRO in relation to action affecting the immigration laws of the United States.

The Act of July 1, 1947 (public law 155), corrected Section 342(b)(8) of the Nationality Act of 1940, changing the word "maximum" to "minimum" as the word appears the second time in the subsection.

The Act of July 22, 1947 (public law 213), amended public law 271—79th Congress by making eligible for admission into the United States the alien spouses of American citizen members of the armed forces or honorably discharged veterans regardless of race, where the marriage occurred before 30 days after the enactment of the Act.

The Act of July 23, 1947 (public law 221), amended the Act of May 7, 1934, granting citizenship to Indians of the Metlakatla Tribe by extending the benefits thereof to those Indians who have resided continuously in the Territory of Alaska as well as in the Annette Islands since Jan. 1, 1900. This law also amends Section 339 of the Nationality Act of 1940 by including the Metlakatla Indians naturalized by Section 1 of the Act of May 7, 1934, among those who may apply for certificates of citizenship.

The Act of July 25, 1947 (public law 239), terminated certain emergencies and war powers and rendered inoperative Section 401(i) of the Nationality Act of 1940.

The Act of July 30, 1947 (public law 274), amended Section 12 of the Immigration Act of 1917, giving the Attorney General and the Commissioner authority to prescribe the contents of manifests.

The Act of Aug. 4, 1947 (public law 357), dealt with the right of aliens to enter the United States for United Nations activities.

The Act of Jan. 27, 1948 (public law 402), known as the "Cultural Relations Act," dealt in part with the interchange on a reciprocal basis

between the United States and other countries of students, trainees, teachers, guest instructors, professors, and leaders in fields of specialized knowledge or skill.

The Act of Mar. 24, 1948 (public law 450), extended the period of validity of public law 471—79th Congress, entitled "An Act to Facilitate the Admission to the United States of Alien Fiancees or Fiancees of Members of the Armed Forces of the United States" to Dec. 31, 1948, and amended the Act of June 29, 1946, by repealing clause (b) of the proviso of Section 1 thereof.

The Act of May 19, 1948 (public law 538), amended the Immigration Act of 1924 to provide that husbands of United States citizens are entitled to nonquota status if the marriage occurred prior to Jan. 1, 1948. The husbands of citizens who marry on or after that date are to be accorded first preference status within the quota.

The Act of May 25, 1948 (public law 552), amended the Act of Oct. 16, 1918, to provide for the exclusion and deportation of aliens who, the Attorney General knows or has reason to believe, seek to enter the United States for the purpose of engaging in activities which will endanger the public safety of the United States.

The Act of June 1, 1948 (public law 567), amended the Nationality Act of 1940 by adding a new Section 324 (A), providing for the expeditious naturalization of noncitizens who served honorably in an active duty status in the military or naval forces of the United States during World War I or during a period beginning Sept. 1, 1939, and ending Dec. 31, 1918.

The Act of June 3, 1948 (public law 600), provided for special return permits for treaty merchants who lawfully entered the United States under Section 3(6) between July 1, 1924, and July 5, 1932, both inclusive.

The Act of June 16, 1948 (public law 647), provided in part that, subject to concurrence, the Secretary of State, the Administrator of Civil Aeronautics, and the Chief of the Weather Bureau of the Department of Commerce, within their respective fields, are authorized within or outside the United States to train foreign nationals in aeronautics and related subjects essential to the orderly and safe operation of civil aircraft.

The Act of June 24, 1948 (public law 759), is the Selective Service Act of 1948 and provided, among other things, that any citizen of a foreign country who is deferred or exempt from training and service may be relieved from liability for such training and service upon his application therefor, but is thereafter debarred from becoming a citizen of the United States.

The Act of June 25, 1948 (public law 774), known as the "Displaced Persons Act of 1948" authorized the admission into the United States during the next two years of 205,000 displaced persons of Europe and the adjustment of the status of 15,000 such individuals who entered the United States prior to Apr. 1, 1948.

The Act of June 25, 1948 (public law 776), amended the Organic Act of Puerto Rico by providing that Section 404(c) of the Nationality Act of 1940 shall not apply to persons who acquired United States citizenship under the provisions of Sections 5 and 5(a) of the Organic Act of Puerto Rico.

The Act of June 25, 1948 (public law 783), corrected Section 332(a) of the Nationality Act of 1940 by inserting the word "seven" in place of the word "ten" which had been erroneously set forth in that Section.

The Act of July 1, 1948 (public law 863), further amended Section 19 of the Immigration Act of 1917 by removing the racial bar to the suspension of deportation and enlarging the class of persons whose deportation may be suspended to include aliens having at least seven years' residence in the United States and who were residing in this country on the effective date of the Act, notwithstanding lack of family ties. The amendment also provided that instead of negative action permissible in Congress under the prior law, the Attorney General shall cancel deportation proceedings only after Congress passes a resolution stating in substance that it favors the suspension of deportation and that if Congress does not pass such a resolution the alien shall be deported.

The Act of July 3, 1948 (public law 893) provided for the recruitment of farm labor in the Western Hemisphere for temporary agricultural employment in the United States.

—WATSON B. MILLER

INDIA, Union of. A self-governing dominion of the British Commonwealth of Nations. The Union, as established Aug. 15, 1947, includes the former British Indian provinces of Assam, Bihar, United Provinces, Orissa, Central Provinces, Madras, Bombay, the newly created provinces of West Bengal (including Calcutta) and East Punjab, the Andaman and Nicobar Islands, and whatever princely states may decide to join (547 by Dec. 1948, forming 20 new provinces.) Capital, New Delhi. (See PAKISTAN.)

Area and Population. The Union of India includes approximately 1,200,000 square miles, the greater part of the subcontinent of India's 1,581,410 square miles, the remainder of which was assigned to Pakistan. The population is approximately 300 million, of whom about five-sixths are Hindus. The population before partition was 87 percent rural. City dwellers were largely concentrated in 1941 in the chief cities (Calcutta, 2,108,891; Bombay, 1,489,883; Madras, 777,481; Hyderabad, 739,159) all of which lie within the new Union, and in other large centers. The density (about 245 per sq. mi.) was one-third that of England and Wales (724) or Belgium (723) and less than that of Switzerland (265 per sq. mi.). The population included more than 45 groups speaking nearly 200 different languages.

Education and Religion. Elementary education is imperfectly developed and illiteracy is high (87.8 percent in 1941). In British India in 1945-46 there were 168,000 recognized primary schools with an enrollment of about 12 million. College and university enrollment was about 175,000.

Classification according to religious communities in 1941 was as follows: Hindus, 66 percent; Moslems, 24 percent; Sikhs, 1.5 percent; Buddhists, Parsees and others, 8.5 percent. The majority of the Moslems thus listed are now residents of the new Dominion of Pakistan.

Production. The greater part of the former India's mineral resources, including particularly large coal and iron deposits, as well as 90 percent of industrial capacity, lie within the Union of India. The latter has all of the jute, paper, and iron and steel works, including the largest steel plant in the British Commonwealth, and nearly all of the cotton mills and glassworks. Although it is not so preponderantly agricultural as Pakistan, because of its size the Union of India retains the greater part of India's agricultural resources. The chief crops are rice, wheat and cotton. Tea, coffee, rubber and jute are also important, although India has only

two-fifths of the jute acreage of the former India. The area planted to cotton in 1947-48 was approximately 7,129,000 acres. The tea crop in 1949 was estimated at 590 million lb. (including Pakistan), as compared with 586.4 million lb. in 1947. A sizeable reserve of food grains in general was accumulated in 1948.

The most important industry is cotton manufacturing. For the period September, 1947-April, 1948, Indian mills consumed 2,225,753 bales of Indian cotton and 437,659 bales of foreign cotton, an increase in each case over the corresponding period the year before. Production in 1948 was expected to total 4,200 million yards, as compared with 3,800 million in 1947. Jute mills, rice mills, tea factories, sugar factories and iron and steel mills employed large numbers of persons.

Foreign Trade. In 1946-47 undivided India's exports were valued at \$959 million, and imports at \$865 million. Exports to the United States were 23 percent of total exports and imports from the United States 19 percent.

Transportation. The Union of India has a railway mileage of 25,970 and a highway mileage of 246,605. Nearly all of the railways are government owned. Gross traffic receipts for 1948-49 were estimated at \$570 million. The Minister for Railways and Transport reported on February 16 that it would be three years before the railways could accept all the traffic offered.

At partition India retained the important ports of Bombay, Madras, Calcutta and Cochin. India's coastal shipping was reported as about 300,000 gross tons in 1948. The air service is extensive (22 routes and 9,361,673 miles flown in 1947) and the June 23 air-transport agreement with Pakistan was expected to extend air routes.

Finance. The first annual budget for the year ending Mar. 31, 1949, showed estimated revenue at \$769 million and expenditure at \$772 million. Undivided India emerged from World War II as a creditor nation, with a debt of \$5,000 million owing from Great Britain. An agreement between the Union of India and Great Britain, signed July 1, 1948, provided for specified releases to India (and to Pakistan by an agreement signed the same week) and reduced the debt owed to the two Dominions to about \$3,540 million.

Government. When undivided India's Interim Government was succeeded by the Government of the Dominion of India on Aug. 15, 1947, the Constituent Assembly became the Parliament. Prime Minister and Minister of External Affairs and Commonwealth Relations, Pandit Jawaharlal Nehru; Governor-General, Chakravarti Rajagopalachari, who succeeded Lord Mountbatten June 21, 1948. Throughout 1948 the Constituent Assembly had a draft constitution under consideration.

Events, 1948. The assassination of Mohandas Karamchand Gandhi on January 30 was a shock felt far beyond the borders of India. Gandhi had devoted the last weeks of his life to efforts to bring an end to violence in India, and early in January he met communal disturbances in Delhi with a five-day fast which had a profound effect and led to solemn promises of greater consideration for the Moslem minority.

All except the minimum essential business activity was abandoned for some days after Gandhi's death, until the period of prayer and dedication to his teachings culminated in the ceremonies held throughout India in connection with the immersion of his ashes in the holy rivers. At the same time sporadic rioting and arson took place, particularly in Bombay and other western centers,

against the right-wing Hindu Mahasabha organization, of which the assassin, Nathuram Vinayak Godse, was a member. This group championed pure Hinduism and insisted that Moslems were a minority in a Hindu state.

Action against Extremist Groups. Although immediately after Gandhi's death Mahasabha branch offices were attacked and the houses of prominent Mahasabha officials were burned, the Government did not take action against the organization as such. Mahasabha was nearly 50 years old and one of its leaders, Shayam Prasad Mukherjee, was Minister of Industries and Supplies in the Cabinet.

On February 4 the Indian Government announced the outlawing of an even more extreme organization, Rashtriya Swayam Sewak Sangh (Association of Volunteers to Serve the Country) which was newer and had recently attracted attention by its drilling and other pseudo-Fascist methods. It was reported that about 350 leaders of the organization were arrested. In December it was reported that the general secretary of the organization was one of the 30 or so members of the R.S.S.S. arrested in Delhi, after there had been demonstrations against the freedom-of-worship clauses in the proposed Indian constitution.

The Communist group of some 75,000 out of India's 300 million people had little success with an effort to show that Gandhi's death was traceable to the British intelligence service. It was observed, in the period of great grief in India, that to the deeply emotional tributes to Gandhi from western leaders of state there failed to be added anything from Moscow. As Communism rose in Malaya and other eastern areas in the summer Indian provincial authorities took several steps to suppress Communist activities, but the Nehru Government postponed or avoided similar action.

Conquest of Hyderabad. The Dominion and the large and rich state of Hyderabad, with a predominantly Hindu population and ruled by the Moslem Nizam (often described as the richest man in the world), were at odds after the latter part of 1947. This princely state, which desired to retain its independence, signed late in 1947 a "standstill" agreement with the Government of India guaranteeing the state's independence for one year. Hindus within Hyderabad held various views; some were anti-Moslem and others feared Brahmin (highest caste Hindu) domination if India obtained control of the state.

After discussions with the Government of India failed to produce a peaceful settlement, the Hyderabad Government on August 24 formally petitioned the United Nations Security Council to take up its quarrel with India, charging that India had conducted a campaign of "violent intimidation" in the preceding few months, had threatened Hyderabad with a crippling economic blockade if it did not give up its independence, and had thus endangered the peace of Asia.

Soon Indian troops were on the march towards Hyderabad, upon which (September 13) the latter asked urgently for an immediate Security Council meeting to stop Indian action. The battle was unequally joined, and on September 17, four and one-half days after the Indian Army crossed the Hyderabad borders from several directions, the Nizam issued a "cease fire" order. The formal surrender of Hyderabad was accepted on September 18, and Prime Minister Nehru announced that the state would be under Indian military government until normality was restored.

At the end of November it was announced that the "standstill" agreement had been extended for

another year, until the Constituent Assembly should decide the future of Hyderabad. Provision was made for the stationing of Indian troops in the state. The matters of defense, foreign affairs and communications remained under the control of the Government of India.

Fighting in Kashmir. Little progress was made until late 1948 in the dispute over Kashmir, amounting to undeclared war between the Dominions of India and Pakistan. On January 17 the United Nations Security Council called on India and Pakistan to take measures immediately to end the fighting in Kashmir and to appeal to their peoples to respect the Council's request for a truce. This was in response to India's accusation that Pakistan was helping raiders in Kashmir and furnishing bases, and Pakistan's accusation that India was guilty of aggression, of plotting the destruction of the state of Pakistan and of an "organized plan to exterminate the Moslems."

In April the Security Council recommended a truce and the holding of a plebiscite, and also set up a commission to bring delegations from India and Pakistan to an understanding. Until late in the year no success had been achieved and the situation in Kashmir had grown worse. Charges succeeded counter-charges. On December 2 the Indian Government through its Defense Ministry replied to a charge made a few days before by Pakistan, arguing that India's military actions in Kashmir had been in self defense while Pakistan and Azad (Free) Kashmir had launched offensives, some of which caused Indian withdrawals.

At the end of the year India was said to have five army divisions in Kashmir and to have occupied some 1,500 square miles of territory. This operation was for the relief of Hindus and Sikh refugees in Poonch city, while from the same area Moslems were trekking westward in cold weather to seek shelter in Pakistan.

Draft Constitution. As published on February 25 the draft constitution prepared by the Drafting Committee of the Constituent Assembly declared India to be a "sovereign democratic Republic" but in a footnote it was explained that the "question of the relationship between this democratic republic and the British Commonwealth of Nations remains to be decided subsequently." The implication was that India had not yet fully decided whether to continue her membership in the Commonwealth, and, if so, in what form.

The draft provided for a central law-making body of two houses. The Indian Union would be composed of three classes of states, including the existing Governor's provinces, princely states and various territories such as the Andaman and Nicobar Islands. According to the draft, "untouchability" was abolished and its practice in any form forbidden. Child marriage was forbidden, and discrimination on grounds of religion, race, caste or sex was prohibited.

The draft constitution was presented to the Constituent Assembly on November 4. Later, on November 29 the clause pertaining to untouchables was approved. It was remarked that at that time the Indian Government included two untouchables, the Minister for Labor, Shri Jagjivan Ram, and the Minister for Law, Dr. B. R. Ambedkar. Dr. Ambedkar, who opened the session of the Constituent Assembly in the absence of Prime Minister Nehru, was married to a Brahmin, a member of the highest of the recognized Hindu castes.

Commonwealth Relations. Prime Minister Nehru took an active part in the Conference of Commonwealth Prime Ministers in London Oct. 11-22,

1948, at which the members from the three new dominions of India, Pakistan, and Ceylon were warmly received, and there was some indication that the give-and-take of the sessions influenced his attitude on India's relation to the Commonwealth. At a press conference in Delhi on November 12, shortly after his return from London, Nehru said that with the world as it was today, no country should seek to break existing links or to isolate itself. At the same time he alluded to the fact that the final decision was in the hands of the Constituent Assembly.

India was one of the five countries of the British Commonwealth to sign the trade agreement with Japan announced on November 8, under which arrangements were made for exchanges worth \$220 million. India sent a delegation to the Commonwealth parliamentary conference which met in London late in October. On November 26 Prime Minister Nehru declared in the Constituent Assembly that India, like Britain, would not consider Eire a foreign country or its nationals as foreigners when Eire's proposed separation from Britain had been completed.

Relations with the United States. Sir B. Rama Rau was designated Indian Ambassador to the United States on June 18, to succeed Asaf Ali, who was to become Governor of Orissa Province. At this time a slight but far from ominous strain existed in the relations between the two countries because of trade difficulties. American Ambassador Henry Grady had recently made representations to Prime Minister Nehru on behalf of American importers who were failing to get jute because of India's quota system. Indians, on the other hand, demanded more favorable treatment from the United States in supplying capital goods and equipment.

The problems created by India's growing inflation were pressing. There was a lively debate on the subject in Parliament on September 3, in which Prime Minister Nehru promised that the Government would soon take the country into its confidence and make known the control measures decided upon.

—ALZADA COMSTOCK

INDIANA. An east north central State. Area: 36,555 sq. mi. Population: (July 1, 1948) 3,909,000, compared with (1940 census) 3,427,796. Chief city: Indianapolis (capital), 386,972 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$197,652,000; total expenditure, \$177,215,000.

Elections. Dewey held the 13 electoral votes which he won in 1944, but by only a small fraction of his 1944 popular majority. There was no Senatorial contest. Democrats won 7 House seats to 4 for Republicans, a Democratic gain of 5. Democrats also swept all statewide races for State office. In the race for governorship, formerly held by the Republicans, Henry F. Schricker, Democrat, defeated Hobart Creighton. Other winners were: Lieutenant Governor—John A. Watkins; Secretary of State—Charles F. Fleming; Attorney General—J. Emmett McManamon; Auditor—James M. Propst; Treasurer—F. Shirley Wilcox; Superintendent of Public Instruction—Deane E. Walker. The voters authorized a veterans' bonus.

Officers, 1948. Governor, Ralph F. Gates; Lieut. Governor, Richard T. James; Secretary of State, Thomas E. Bath; Attorney General, Cleon H. Foust; State Treasurer, Frank T. Millis; State Auditor, Alvan V. Burch.

INDIAN AFFAIRS, Bureau of. The Bureau of Indian Affairs in the U.S. Department of the Interior acts as the administrative agency in carrying out the provisions of treaties and agreements made with the Indian tribes, and statutes enacted by the Congress. It has jurisdiction over approximately 57 million acres of Indian trust lands which are scattered from the northwest corner of the State of Washington to the Seminole reservation in the Florida Everglades. These lands vary in size from individual units of a few acres to the Navajo reservation in Arizona, New Mexico, and Utah, which is larger than the State of West Virginia.

In many of these areas this bureau, often termed the Indian Service, must provide almost all of the services which non-Indian citizens receive from the Federal, State, and local governments. Administration functions through a central office in Washington, D.C., and the field service, consisting of 54 agencies, 10 non-reservation boarding schools, and five detached sanatoriums. Each agency is headed by a superintendent, with a staff of specialists in education, health, welfare, extension, irrigation, forestry, and construction.

As of Jan. 1, 1948, Indians under the jurisdiction of the Bureau of Indian Affairs numbered approximately 400,000 in the continental United States, with an additional 35,000 natives—Indians, Eskimos, and Aleuts—in Alaska. They belong to some 200 different tribes and speak at least 55 distinct languages; their customs and ways of life are varied. In general they are a rural people, depending upon livestock, agriculture, timber, and wage work as their principal sources of income.

In its general policy the Indian Service seeks two objectives: (1) to assist the Indian people in attaining economic self-sufficiency through maximum use of their resources or, where resources are inadequate, through vocational training and placement in off-reservation employment; and (2) to encourage Indians to move in the direction of ultimate assimilation in American society. The attainment of these objectives is sought through programs of education, health improvement, land management, credit financing, and basic resource development, including the construction of roads and irrigation works, soil conservation projects, forestry practices, and related activities.

Indians have made marked progress in the use of land and other resources in recent years. In the years since 1930 they have increased the acreage of crop lands farmed by themselves by 400,000 acres. This land formerly was leased by non-Indians. They have also taken over from leasees more than 7,000,000 acres of grazing land. Indian-owned livestock has increased from 171,000 head (1932) to 408,000 head (1948), and total agricultural income increased in the same period from \$1,850,000 to \$49,000,000. The organization of professional agricultural extension work on Indian reservations in 1931, together with a shift in educational policy which resulted in giving increased training in agriculture and stock raising, has resulted in the rehabilitation of 12,000 or more Indian families.

Resource development has been greatly aided by the construction of some 250 irrigation projects on Indian lands. These projects vary in size from a few acres to areas exceeding 100,000 acres, and represent an investment of \$60 million. The total land supplied with water for irrigation use amounts to 540,000 acres. Surveys and investigations are under way to develop plans for all potentially irrigable Indian lands, estimated at an additional 475,000 acres. The construction of these projects will add greatly to the productivity of Indian lands.

and assure a subsistence base for at least 10,000 families.

The schools operated by the Indian Service are designed to serve a community. The courses offered are equivalent or are superior to the courses of study provided in the States in which the Indian schools are located, but in addition they have been adapted to the needs of each reservation or each area, accordingly as the area is devoted to farming, to grazing operations, or to survival on the Arctic coast. The schools provide the main meal of the day for many day school students, they furnish medical examinations, they offer an arrangement by which parents may obtain clothing for the children on a work-payment basis, they supply recreational opportunities, and they serve as a center for adult community life with shops and home economics rooms in which the parents may repair furniture and farm equipment, make clothing, preserve foods, and find entertainment and leisure reading.

More Indian children are in public schools than in Federal Indian schools, the numbers being, respectively, 32,000 and 27,000. An additional group of 7,800 children attend private schools, mostly sectarian. The children attending Federal Indian schools are predominantly full-blood and come from non-English speaking homes. These factors place a limitation on the rate at which additional Indian children can be placed in public schools, since ordinarily the public schools are not prepared to cope with the language handicap.

A separate Indian medical service was organized in 1924, and two years later a cooperative arrangement was entered into with the United States Public Health Service by which the latter agency provides the medical director and certain field physicians to the Indian Service. This has resulted in a greatly improved level of medical care. The Indian Service operates 74 hospitals and sanatoriums in the United States and Alaska, with a total capacity of 4,000 beds. An important program of BCG vaccinations was initiated during the year, following a ten-year experimental study of the effectiveness of the vaccine in the prevention of tuberculosis.

Favorable court decisions in Arizona and New Mexico opened the door to full voting privileges for the approximately 100,000 Indians in those two States. These decisions removed the last legal barriers interposed between Indians and their franchise rights. Although all Indians born within the United States were made citizens by the Act of June 2, 1924, as recently as 1940 seven States barred Indians from voting either by law or by interpretations of law resulting in disfranchisement. Five of these States had allowed their restrictive provisions to go unenforced, and with the formal court actions in Arizona and New Mexico in July and August, 1948, it seems unlikely that any of the States in which discriminatory laws remain on the books will attempt in the future to enforce them against their Indian citizens.

William A. Brophy retired as Commissioner of Indian Affairs in June, 1948, having served since Mar. 15, 1945. William Zimmerman, Jr., who has been Assistant Commissioner since 1933, was named Acting Commissioner.

—D'ARCY McNICKLE

INDOCHINA. The southeastern peninsula of Asia, consisting of Burma, French Indochina, Siam, the Federation of Malaya, and Singapore.

INDONESIA. Official name of the former Netherlands East Indies adopted by an amendment to the

Dutch Constitution effective Sept. 20, 1948. Capital, Batavia, on the island of Java.

Area and Population. Total land area, 733,000 square miles with an estimated 1948 population of 75,000,000. Prior to the Dutch attack of December, 1948, on the Republic of Indonesia, it comprised about 166,000 square miles (25 percent of Java and 80 percent of Sumatra) with 25 million to 30 million inhabitants. Dutch-controlled Federal Territories and other non-Republican areas, about 570,000 square miles with approximately 50 million inhabitants. Total population (1930 census): 60,727,233. Java and Madoera had 48,416,000 inhabitants in 1930; the Outer Provinces, 22,060,000; there were about 250,000 "Europeans," including 220,000 Netherlands and Eurasians, 1,200,000 Chinese, and 115,000 other alien Asiatics. Over 92 percent of the population is rural. Chief cities (with latest available populations): Batavia, 606,800; Soerabaya (Surabaya), 390,700; Semarang, 217,796; Bandoeng, 166,815; Soerakarta, 165,484; Djokjakarta (Jogjakarta), 136,649, all in Java. Palembang (Sumatra), 109,069.

Education and Religion. At the 1930 census 93 percent of the population was illiterate; in 1940, 90 percent (estimated). Total prewar primary school enrollment for all Indonesia, 2,200,000. In 1948 there were in Dutch-controlled territories 2,080,000 children in primary schools using the Indonesian language; 197,000 in Dutch-language primary schools; 50,000 in Chinese schools. In Republican territories there were reported to be 18,094 primary schools, 52,800 teachers, 2,728,000 pupils; 234 secondary schools, 2,058 teachers, 46,513 pupils. About 20 percent of all pupils in the Dutch areas attended missionary schools. Higher education was given at the Bandoeng technical college, Batavia University, the Soerabaya medical school, and newly established Republican institutions at Batavia, Jogjakarta (2), Klatten in Central Java, Soerakarta, and Malang.

About 60 million Indonesians are Moslems, 2.5 million Christians, 1 million Hindus (in Bali), and the rest Buddhists, Taoists and pagans.

Production and Trade. Agriculture is the chief industry, with mining, manufacturing, forestry, and fishing of secondary importance. However the copra industry supports some 75 percent of the population of East Indonesia. Before World War II Indonesia produced approximately the following percentages of the world's annual yields: quinine 90, pepper 85, kapok 70, rubber 40, copra 30, palm oil 25, fibers 20, tea 20, tin 15. Other products are petroleum, bauxite, manganese, coal, rice, coffee, sugar, gums, insecticides, cigar wrappers, spices. Java's 1948 rice output was about 3,800,000 metric tons (4,800,000 prewar). Tin production exceeded the prewar level; but output of most other products was much below the prewar rate due to the continued Dutch-Republican deadlock. In inflated postwar currency, the 1948 industrial output of the Dutch areas was estimated at \$472 million (\$250 million prewar).

In 1939 exports from all Indonesia were valued at \$420 million, imports \$284 million. Exports from Dutch-controlled areas, at inflated prices, were \$130 million in 1947 (\$58 million in 1946); imports, \$269 million in 1947 (\$69 million in 1946).

Indonesian exports by volume as of September, 1948, averaged only 25 percent of the prewar level, the breakdown of the major export items being: tin, 87 percent of prewar; rubber 57, petroleum 48, copra and vegetable oils 26, kapok 23, sugar 7, tea 6, tapioca 5, pepper 2.

Government. For the prewar Dutch administra-

tion, see *YEAR BOOK, Events of 1947*. Following the collapse of Japanese rule in August, 1945, an Allied (British) Military Administration functioned until November, 1946, when the territories under its control were handed back to Dutch civil rule. The Dutch Acting Governor General administered these territories under a state of emergency with the assistance of a cabinet of departmental chiefs and subject to the directives of the Netherlands Government.

Nationalist leaders of the Indonesian Republic proclaimed all of Indonesia independent on Aug. 17, 1945. In the Linggadjati (Cheribon) Agreement signed Mar. 25, 1947, the Netherlands recognized the Republic as exercising the de facto authority over Java, Madoera and Sumatra. However the Dutch-Republican hostilities of July-August, 1947, brought all of Madoera, some three-fourths of Java, and a fifth of Sumatra under the Dutch.

Beginning at the end of 1946, the Dutch sponsored the establishment of the following federal states and autonomous areas in territories under their control:

DUTCH-SPONSORED INDONESIAN STATES

States	Area ^a (Sq. Mi.)	Pop. (1000's) ^a	Capital
West Java ^a (Pasundan) . . .	14,970	13,000	Bandoeng
East Indonesia ^b	140,000	12,000	Macassar
East Java	9,000	8,000	Soerabaya
Madoera	2,000	2,000	Bangkalan
East Sumatra	35,200	2,000	Medan
South Sumatra	32,200	2,000	Palembang
<i>Autonomous Areas</i>			
Bandjar ^c	1,200	1,200	Bandjarماسين
West Borneo	58,700	1,100	Pontianak
East Borneo	100,000	400	Balikpapan
Brunei-Muara	10,621	460	Pangkal Pinang
Great Dayak	48,500	200	.....
South East Borneo	4,000	100	.....

^a Excluding Bantam. ^b Comprising all the islands east of Java, Madoera, and Borneo except Netherlands New Guinea. ^c According to Dutch official sources, Bandjar, South East Borneo, Great Dayak, and Kota Waringin were to be united in a federation, to be called South Borneo. ^d Estimated.

Events, 1948. Hopes for a settlement of the stubborn dispute between the Netherlands and the Indonesian Republic rose in January with the conclusion of the Renville Agreements. The Three-Power Good Offices Committee of the UN Security Council induced delegations representing both governments on January 17 to sign a military truce and a statement setting forth the principles agreed upon for continuance of the negotiations. Six additional principles were added to the original eight on January 19.

The most important points called for (1) continued assistance of the Good Offices Committee in working out a settlement based on the principles underlying the Linggadjati Agreement; (2) mutual guarantees of freedom of assembly, speech, and publication; (3) restoration as soon as practicable of economic activity, trade, transportation, and communications through the cooperation of both parties; (4) Dutch sovereignty to continue throughout the Indies until the Netherlands transferred it to the projected United States of Indonesia; (5) a plebiscite to be held within six months to one year "to determine whether the populations of the various territories of Java, Madoera, and Sumatra wish their territory to form part of the Republic of Indonesia or of another state within the United States of Indonesia"; (6) following such delineation of the states, the convening of a constitutional convention through democratic procedures to draft a constitution for the USI.

This agreement permitted the Dutch to hold the

territories seized from the Republic during the 1947 hostilities pending the plebiscites. It was accepted by the Republic in the belief that the plebiscites would bring these and other Dutch-held areas back into the Republican fold. However the negotiations again became deadlocked on the question of where the plebiscites should be held. The Republic wanted to confine them to the Dutch-held territories in Java, Madoera and Sumatra. The Dutch insisted that they should include Republican-held territories.

In an effort to break the deadlock, the American and Australian members of the Good Offices Committee on June 10 proposed that the plebiscites be abandoned in favor of elections throughout Indonesia for a constituent assembly. This assembly would fix the state boundaries, draft the USI constitution, and form a provisional federal government. The proposal was accepted by the Republic in principle but was rejected by the Netherlands. On July 23 the Republic broke off the negotiations charging "Dutch inaction."

Dutch Prepare New Regime. Despite Republican protests, the Dutch went steadily ahead with plans to establish the USI without the cooperation of the Republic if it refused to enter on Dutch terms. The autonomous states of West Java, East Java, Madoera, East Sumatra, and South Sumatra were set up in territories taken from the Republic in 1947. On March 9 Acting Governor General Hubertus J. van Mook installed a Provisional Federal Government of the Netherlands East Indies in which representatives of eight Dutch-sponsored states shared responsibility with Dutch officials. The Republic was invited to participate but refused on the ground that it was not offered fair representation.

The Provisional Government was intended to function until the establishment of the USI, scheduled for January, 1949. On May 12 Van Mook convened a conference of representatives of the non-Republican states and minority groups at Bandoeng to formulate their ideas concerning the constitutional structure for the USI and the Netherlands-Indonesian Union.

Impatient at the delay in setting up an all-Indonesian federal administration, caused by the Dutch-Republican deadlock, the Premiers of the non-Republican states at Bandoeng proposed the immediate establishment of an interim Indonesian federal regime to replace Van Mook's provisional government. The Republic rejected this plan also, but the Netherlands Government was more receptive. At a conference in The Hague with representatives of the non-Republican states in September and October, the Dutch agreed to the setting up of the proposed interim federal government. There would be a three-man Indonesian directorate elected by the governments or parliaments of the member states; a federal council with one member from each state; and a federal legislature with 2 to 10 representatives from each state, depending on the population.

Beel Succeeds Van Mook. Regarding Acting Governor General Van Mook as an obstacle to this program, the Netherlands Government asked for, and in mid-October received, his resignation. A number of Van Mook's chief associates in the Batavia Provisional Government also resigned. The Netherlands Government then permitted the 150-year-old office of Governor General to lapse. It sent former Prime Minister Louis J. M. Beel to Batavia as its High Commissioner with orders to speed the transfer of authority to the Interim Federal Government.

New Dutch-Republican Talks. At the same time The Hague made a final effort to secure the participation of the Indonesian Republic in the proposed Indonesian administration. After talks in Jogjakarta, the Republican capital, by Foreign Minister Dr. D. U. Stikker, a large delegation representing the Netherlands Government and political parties flew to Java late in November for informal discussions with Prime Minister Mohammad Hatta of the Republic. Agreement was reached on most issues. But the parties failed to agree on the powers of High Commissioner Beel and on the question of the number and status of the Republican armed forces under the interim regime.

After the Dutch delegation's return to The Hague, the Netherlands Government on December 11 announced that negotiations for a settlement with the Republic had broken down irretrievably. It stated that no further discussions with the Republic would be held under the auspices of the UN Good Offices Committee.

A Netherlands decree of December 18 established the interim federal government for Indonesia. The same evening the Dutch Government announced the opening of military operations against the Indonesian Republic with the aim of forcing it to enter the interim government on Dutch terms.

Without warning, Dutch airborne troops captured Jogjakarta December 19 and took prisoner the leaders of the Republic, including President Soekarno, Prime Minister Hatta and former Prime Minister Sutan Sjahrir. By midnight of December 31 Dutch troops had occupied all the chief centers of the Republic in Java. The Netherlands Government then belatedly accepted the cease-fire ordered by the United Nations Security Council in Paris on December 24. [In Sumatra, where Dutch troops had not yet gained all their military objectives, military operations continued into 1949.]

In response to another Security Council order for the immediate release of the captured Republican leaders, the Netherlands Government agreed to do this if they undertook to "refrain from activities endangering public security."

The Republican chiefs refused to pledge discontinuance of political activity in return for their release. Consequently they were held by the Dutch in defiance of the Security Council order.

On December 29 it was announced that Netherlands Premier Willem Drees would go to the Indies at once in an effort to persuade the captured Republican leaders and the chiefs of the Dutch-sponsored states to cooperate in the interim federal government. However the cabinets of the two most important non-Republican states—West Java and East Indonesia—had resigned in protest at the Dutch attack on the Republic. And large Republican forces in Java and Sumatra were beginning guerrilla warfare against the Dutch. As the year ended, prospects for an early solution of the Dutch-Indonesian conflict appeared dim.

Events in the Republic. As in previous years, the struggle for power between the parties of the left and right enhanced the difficulties of the Republican government in attempting to reach a settlement with the Netherlands. The Socialist Prime Minister, Amir Sjarifuddin, and his predominantly leftist cabinet resigned January 23 under bitter attacks from opposition leaders who charged them with bowing to the Dutch in signing the Renville truce agreement.

Vice President Mohammad Hatta then formed the Republic's first predominantly rightist government. But Hatta's government in turn was attacked

by Sjarifuddin and his People's Democratic Front for trying to carry out the Renville Agreements. In April Sjarifuddin's policy and the increasingly pro-Soviet orientation of his People's Democratic Front provoked a split in the Socialist ranks. Former Prime Minister Sutan Sjahrir and a minority faction withdrew and formed a rival Socialist Party favoring neutrality in the Soviet-Western struggle.

Pro-Soviet sentiment was strengthened by Moscow's offer of May 12 to exchange consuls with the Republic. Negotiations for the formation of a "national front" government with a more pro-Soviet and anti-Dutch line were under way when a sudden reversal of Moscow's policy plunged the Republic into civil war. This change followed the arrival in Java from Moscow in August of a veteran Communist revolutionary leader named Muso, who had been exiled by the Dutch authorities in 1925.

Muso took over the leadership of the Indonesian Communist Party, which overnight absorbed all of the leftist groups in the People's Democratic Front. He called on Hatta to repudiate the Renville Agreements and align the Republic with the Soviet Union in the struggle with "American imperialism." When Hatta refused, Muso launched a revolt in mid-September by seizing Madiun, an industrial center of East Java, and establishing a "people's republic" with himself as President and Sjarifuddin as Prime Minister.

The bulk of the army and the parties of the right and center rallied behind the Hatta government. Madiun was recaptured. The Stalinist leaders and armed units fled to the mountains but were hunted down and dispersed during October and November. Muso was killed. Sjarifuddin, Alimin, and most of the other key Stalinist leaders were captured. The Communist Party was outlawed. The Hatta government announced that all prospects of close relations with Soviet Russia had been ended by the revolt.

With political power in the Republic now largely monopolized by the right and center parties, Hatta was in a stronger position. But property destruction during the revolt and the continuance of Dutch restrictions on the Republic's internal and foreign trade intensified its grave economic problems. These problems were inherited by the Dutch when they occupied the Republic by armed force in December.

—RONALD STUART KATZ

INLAND WATERWAYS CORPORATION. A Division of the United States Department of Commerce, incorporated to carry out sections of the Transportation Act of 1920, to make possible the coordination of rail and water transportation in the United States. It is organized along commercial lines, with its own executive heads, traffic, purchasing, operating, and accounting departments. Through joint rates with the railroads, it serves the people in 42 of the 48 States. The Corporation does not receive annual appropriations by Congress. It operates barge lines on several important water routes. President: A. C. Ingersoll, Jr.

INSECT PESTS AND PLANT QUARANTINES. Investigations of new insecticides and new or improved methods of applying them continued to be an important phase of entomological research. Large-scale cooperative programs for the control of insects and plant diseases have been greatly aided by the use of new materials and methods. The problem of protecting our agriculture against foreign pests has continued to increase with the rapid growth of world commerce since the war, and dis-

insectization treatments have been introduced where feasible to aid in providing better safeguards. Informational activities were intensified during the winter and spring when the Bureau participated in the Department's grain-conservation program. Emphasis was placed on the presentation of facts that would encourage and aid farmers and others in conserving food and feed by controlling insect pests.

Further Developments of New Insecticides. Two phosphorus compounds, tetraethyl pyrophosphate and the insecticide known as parathion (0,0-diethyl 0-p-nitrophenyl thiophosphate), have shown considerable promise for many uses. Chlordane, benzene hexachloride, chlorinated camphene, and tetraethyl pyrophosphate are now in commercial use and are recommended for certain purposes. In laboratory and small-scale field tests, parathion has shown outstanding effectiveness against a wide range of insects, but it cannot be recommended for practical use until more is known about its toxicological effects on persons handling it and possible hazards from residues on plants.

Several materials have been found which when added to pyrethrum and rotenone increase their effectiveness so that smaller amounts can be used in insecticide preparations. Gas-propelled aerosols have been improved, both in formulations and in devices for applying them. Considerable progress has been made in the development of equipment for applying insecticides by airplane, and important modifications were made to improve the mist blowers for applying concentrated sprays. Automatic equipment for applying insecticidal aerosols to airplanes to free them of hitchhiking insects was developed. Such devices will be operated by the pilot and will insure the application of the full prescribed dosage and its distribution to all parts of the plane.

Pests and Disease Carriers Affecting Man. Tests showed parathion to be more effective than DDT against adult yellow-fever mosquitoes and ten times as toxic to larvae of the common malaria mosquito. Chlordane and chlorinated camphene gave better protection than DDT against wood ticks, chiggers, and fleas. Chlordane has also given excellent control of ants in houses, and has continued to be more effective than DDT against cockroaches. This insecticide is now recommended for use against cockroaches, with the usual precautions for handling poisons.

Experimental work in the control of disease-carrying insects, such as lice and yellow-fever mosquitoes, has shown that it is possible in some cases to kill these pests by feeding to animals certain chemicals that will make the blood of the animals deadly to the blood-sucking pests that prey on them.

Livestock Pests. Chlorinated camphene and DDT sprays were found to be equally effective against horn flies, ticks, and lice on cattle. Chlordane appears to be effective against sheep ticks. Progress has been made toward perfecting a laboratory method of testing chemotherapeutic agents for the control of cattle grubs.

Toxicological Studies. Results of the cooperative studies to determine the amount of insecticide secreted in the milk of dairy animals show that small quantities of varying amounts of DDT and TDE appear in the milk of cows treated with these insecticides. The material extracted from the milk of a cow that had received a diet containing large amounts of DDT was equally as toxic to flies and mosquito larvae as a sample of the DDT fed to the animal. Studies are under way to determine

the extent to which the newer insecticides are deposited in the fat, meat, and organs of treated animals. Preliminary investigations indicate that some of the materials may be stored in the fatty tissues.

Fruit Insects. The widespread use of DDT for codling-moth control has reduced populations of this pest; consequently fewer applications are now required to give satisfactory control. The trend to fewer sprays for codling-moth control has been partly offset by the need for additional sprays for mites, woolly apple aphid, and red-banded leaf roller. Preliminary tests with parathion gave excellent results in the control of many fruit insects, including plum curculio, orchard mites, pear psylla, codling moth, red-banded leaf roller, California red scale, and black pecan aphid, and did not injure trees or fruit to which it had been applied. Benzene hexachloride was again promising against the plum curculio on peaches and against woolly apple aphid, but apples sprayed in mid-August were off-flavor when harvested in October. In addition to parathion, several other new materials showed promise in mite control.

Japanese Beetle. Chlordane was found to be as effective as DDT and faster in controlling Japanese beetle grubs in turf. It not only killed the brood of grubs present at the time of application in the spring of 1947, but also eliminated most of the subsequent brood by mid-September. The Federal Japanese beetle quarantine was revised, effective Apr. 30, 1948, to omit the boundaries of the heavily infested area and to provide for the issuance of administrative instructions to designate such boundaries on the basis of seasonal conditions. Special efforts were made in 1947 to prevent the spread of the insect by airplanes flying from the infested area.

European Corn Borer. Losses caused by this insect in 1947 were the highest on record in the United States—50 million bushels of field corn, valued at about \$94 million, and \$3 million worth of sweet corn. In 1948, for the first time, DDT was recommended for the control of the insect on field corn. Of special interest was the demonstration in laboratory and field tests of absorption of insecticides by corn following soil treatment and the resulting kill of corn-borer larvae. Parathion and a water soluble extract of *Ryania speciosa* were the most promising of a large number tested, but the use of insecticides in this way is still in the experimental stage. To supplement parasites of the borer already established in this country, importations were made from France and Italy of the following species: *Apanteles thompsoni* Lyle, *Campobex alkae* H. and S., and *Microgaster tibialis* Nees.

Grasshoppers. Sprays and dusts containing chlorinated camphene or chlordane applied to tall, succulent growth in alfalfa fields, along roadsides, field margins, and similar areas gave satisfactory control of grasshoppers. Sprays were applied at the rate of 1½ lb. of chlorinated camphene or 1 lb. of chlordane per acre. For dusts, the dosages were 2 lb. of chlorinated camphene or 1½ lb. of chlordane. On range, idle lands, or other locations where vegetation is sparse, the standard sodium fluosilicate bait continued to provide satisfactory control. The 1947 cooperative control operations were conducted in 23 central, midwestern, and western states, giving protection to more than 5,698,000 acres of crops and pasture valued at about \$50,369,000.

Mormon Crickets. The acreage infested in 1947 was almost twice that in 1946, but most infestations were fairly remote from crop lands. Approximately 258,000 acres were baited in the combined

Federal-State operations to protect 151,000 acres of crop lands as well as large areas of pasture and range. The insects damaged 29,000 acres of crops and 347,000 acres of range land.

Stored-Grain Insects. Entomologists have developed a simple and practical method of determining hidden weevil infestation in stored grain. By soaking grain samples for a few minutes in a stain containing acid fuchsin and then washing them in water, little cherry-red dots appear where weevils have laid eggs in the kernels. This discovery provides an inexpensive and practical means of determining quickly and easily the percentage of hidden weevil infestation in wheat, corn, or grain sorghum.

White-Fringed Beetle. There was some extension of infestation by this insect, now known to occur on approximately 215,000 acres in 114 counties in the states of Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. State and Federal quarantines were revised to include the newly-found infested areas. Additional treatments, which include incorporation of DDT into soil of nurseries supplemented by DDT foliage sprays during the summer, were authorized as a basis for certification of plants and other carrier materials for movement to nonregulated areas. Jeep-mounted concentrated-spray machines and high-velocity blowers are important developments which permit DDT treatment of land more rapidly and effectively at a lower cost.

Vegetable and Greenhouse Insects. DDT was the most effective insecticide tested for the control of the pea aphid and the pea weevil in the Pacific Northwest. Insecticidal sprays were superior to dusts when applied by aircraft to control the pea aphid, but dust gave better results when applied by ground machines. An aerosol containing 10 percent of parathion, with methyl chloride as the propellant gas, gave exceptional control of a number of greenhouse pests without injury to plants. Aerosols containing tetraethyl pyrophosphate gave outstanding results against the two-spotted spider mite and other mites; also aphids and other greenhouse pests. For example, those containing 10 percent of hexaethyl tetraphosphate (tetraethyl pyrophosphate content 20 percent) were very effective against spider mites, aphids, the greenhouse whitefly, and the Mexican mealybug; however, plant injury followed their use on a number of varieties of chrysanthemums, roses, and tomatoes. Appropriate safeguards have been outlined and these aerosols are now in commercial use.

Studies on piporonyl compounds added to low-rotenone-content dust indicate that an increase in toxicity of such dusts to the Mexican bean beetle results. In laboratory and field tests on the comparative performance of the three soil fumigants, ethylene dibromide, 1,1-dichloro-1-nitroethane, and dichloropropane-dichloropropylene (D-D) mixture, for wireworm control in Washington, it was determined that soil temperatures, soil sorption, and diffusion affected the degree of efficacy of these materials. The D-D mixture was most efficient at all temperatures encountered in compact soil, but the other two fumigants were more efficient in loose soil. Benzene hexachloride is the most efficient and cheapest material yet tested for wireworm control, but its use in the soil may cause off-flavor of root crops. This effect may be prolonged for one or more seasons.

Golden Nematode. The control program, begun in 1941, and conducted cooperatively with the State of New York, has been intensified. A detailed survey was carried on at Hicksville, L.I., to determine

the limits of the area infested in and around the original center of infestation. At the end of June, 1948, the Long Island infestations comprised 6,154 acres of potato land on 150 properties in Nassau and Suffolk Counties. This area is still the only known center of infestation in the United States. More than half the area shown by the survey to be infested was withdrawn from production in 1948. No potatoes or tomatoes, which are the only cultivated hosts of the nematode, were grown on land known to be infested at planting time.

Cotton Insects. The boll weevil caused much less damage in 1947 than in 1946 in 9 of the 12 states where it occurs. Only in Virginia, North Carolina, and South Carolina was the damage greater than in the previous year. Calcium arsenate, benzene hexachloride, chlorinated camphene, and chlorodane have each proved to be effective for controlling the boll weevil in certain areas. Dusts containing 20 percent of chlorinated camphene and at least 40 percent sulfur, or 5 percent of DDT, 3 percent of the gamma isomer of technical benzene hexachloride and 40 percent of sulfur have controlled the boll weevil, bollworm, cotton aphid, cotton leafworm, cotton fleahopper, and red spider mites.

During the year pink bollworm infestations were generally light largely as a result of the cooperative control program. The Federal pink bollworm quarantine was amended Aug. 22, 1947, to remove the quarantine from Louisiana and to place additional counties of Texas under quarantine. The quarantine was again amended June 11, 1948, to include 43 counties in Texas and 8 counties in southwestern Oklahoma found infested in the fall of 1947. This is the first time the pink bollworm has been found in Oklahoma. DDT used as a 10-percent dust has proved to be the most effective insecticide that has been found for control of this insect. Cultural practices are still considered to be the best method of controlling this pest.

Cooperative work with Mexico was continued during the year. Fixed-planting and stalk-destruction dates in the Matamoros area to conform to those applicable in the adjacent lower Rio Grande Valley of Texas were again enforced by the Mexican authorities.

Forest Insects. Surveys conducted in the fall of 1947 indicated that the Douglas-fir tussock moth control program in Idaho, Washington, and Oregon had been so successful that no further spraying should be necessary.

Aerial surveys have marked a step forward in the field of forest-insect detection. An aerial-reconnaissance survey of 7,750,000 timbered acres in Oregon and Washington was completed in 1947. About 710,000 acres of spruce budworm infestation, 70,000 acres of Douglas-fir tussock moth infestation, and several small outbreaks of other species were mapped, and the general status of the western pine beetle was recorded. All this was done in about 30 hours of flying time—less than 2 weeks' work for obtaining information that would have taken a ground crew most of the summer to acquire. The cost was far below that required for earlier ground surveys.

New types of portable power sprayers mounted on jeeps or weapon carriers were used in 1948 for applying orthodichlorobenzene in fuel oil (1:6) to control the Black Hills beetle and the mountain pine beetle in South Dakota, Wyoming, and Idaho. These new types proved vastly superior to hand sprayers formerly used.

Work was continued on the development of aerial spraying for control of forest insects. Prelimi-

nary steps were taken to study the possibility of improving the spray pattern by varying the position of outlets in the air stream around the plane.

Parasites were responsible for much of the sharp reductions in spruce budworm populations in the Adirondack area of New York.

Except in parts of southeastern Massachusetts, gypsy-moth populations were at the lowest in several years. A total of 265,445 acres in New England, New York, and Pennsylvania were treated with DDT in the Federal-State cooperative gypsy-moth control program.

Benzene hexachloride continued to give promising results for control of ambrosia beetles attacking logs and lumber.

Mist blowers were used to apply DDT to a small number of large elms to control bark beetles. Approximately 1 gallon was required for satisfactory coverage of larger trees.

It was successfully demonstrated that a leafhopper, *Scaphoideus luteolus* Van Duzee, transmits to elm trees the virus causing phloem necrosis. The insect has been found throughout the region where phloem necrosis is known to occur.

Bee Culture. An important advance in bee breeding was the discovery that subjecting virgin queens to carbon dioxide gas causes them to lay eggs. Queens so treated lay drone eggs. They can later be mated with their own sons to produce a 50-percent inbred F_1 generation. With this treatment, together with artificial insemination, closer inbreeding may be accomplished. Sulfathiazole fed in sugar sirup continued to retard the development of American foulbrood, but does not cure it. A container of plastic cloth has been devised for shipping package bees by air.

Foreign Parasite Introduction. Shipments of two species of leaf-feeding beetles, *Chrysolina* spp., totaling 500,000, were received from Australia for colonization in northern California, Oregon, and Washington against the Klamath weed. Many colonies of these beetles released in California in 1945-46 are now well established and are showing definite promise of checking this weed pest.

White Pine Blister Rust. In 1947, 2,4-dichlorophenoxyacetic acid (2,4-D), was used on a practical basis to destroy *Ribes roezli*, the principal alternate host of the rust in the Sugar Pine forests of California. The spray is fully effective only while the plants are in an actively growing stage. Blister rust was reported for the first time on white pine in Tennessee and in the North Central States there was a large southward extension of the rust on ribes. During 1947 more than 22 million ribes bushes were destroyed on 2 million acres, of which nearly half represented initial eradication.

Black Stem Rust. Crop losses to small grains from stem rust were light in 1947. During the year more than 18 million barberry bushes were destroyed on 3,598 properties, covering an area of 23,251 square miles in the 18 states comprising the barberry eradication area. Tests were conducted with some of the new chemicals in an effort to find a cheaper herbicide for eradicating native barberry bushes and for treatment of planted bushes without endangering nearby shrubbery and trees. Preliminary observations showed some species of barberry to be susceptible to severe damage by formulations of 2,4-D. Ammonium sulfamate in solution gave satisfactory kill on others. However, further work is needed before their general use can be recommended.

Foreign Plant Quarantines. Of 44,300 ships inspected during the year, 24 percent were found to be carrying prohibited agricultural material. More

than 90 percent of the arriving ships came directly from foreign ports. Of 57,756 airplanes inspected at 47 ports of entry, 26 percent were found to be carrying prohibited plant material. Inspection in Hawaii of all aircraft and ships upon arrival and of all planes before departing for the mainland was continued. The disinsectization of airplanes was also continued. The rapid build-up of oriental fruit-fly populations in the Hawaiian Islands has increased the importance of preflight inspection and disinsectization of all planes destined for continental United States. Nearly 137,000 interceptions of prohibited or restricted plants and plant products were made during 1948, an increase of 14 percent over 1947. The demand for plant quarantine services in connection with the inspection and certification of plants and plant products for export increased markedly in 1948.

—P. N. ANNAND

INSURANCE. The year 1948 was a difficult one for most insurance companies, since many of the problems which confronted them could not have been foreseen even three years ago. And although generally, the volume of production was higher than in 1947, the year ended on an uneasy note due to troublesome rumblings, as mentioned below in the report on Life Insurance. The investment problem remained a problem throughout the year, with little hope of any material change in the picture, particularly in view of the year-end weakness of the market.

Casualty. The Number One trouble spot in the casualty field was in Automobile Insurance. For, in spite of the fact that the lowest traffic death rate was recorded in 1948, there is still much work to be done to lower highway fatalities to an absolute minimum. Recently, Maj. Gen. Philip B. Fleming, Federal Works Agency administrator, said that in 1946, the President's "Highway Safety Conference" set a goal of 50 percent reduction in the traffic death rate from 12 to 6 per 100 million vehicle-miles.

General Fleming listed a combination of factors responsible for high traffic death rates. He said: "(a) lax enforcement of traffic regulations; (b) inadequate driver license laws; (c) insufficient education on the principals of highway safety; (d) an overly large mileage of obsolete highways not designed for the traffic which they are now carrying, and (e) lack of uniformity in traffic regulations and in street and highway warning and directional signs." This program should aid companies in reducing the staggering number of claims paid last year.

It is estimated that the automobile volume of stock companies will show an increase of 42 percent over 1947, although the increase last year was 36.4 percent over 1946, this causing much hawking at the time. During the year just closed, there was a sharp increase in the cost of Plate Glass protection, and some further tightening of some of the broad clauses formerly in our burglary policies. This was due to the claim losses in these two fields, these reflecting postwar crime conditions and the continued up-swing in robberies and burglaries.

Most companies are well pleased with the 1948 results, and those who are students of trends, have their fingers crossed when they discuss 1949.

Fire. During the summer of 1948, Monsanto Chemical Company of St. Louis received the sum of \$17,312,000 from insurance companies, in payment of losses suffered Apr. 16, 1947, in the Texas City disaster, this being the largest single insurance

payment in history. When, in 1947, the National Board of Fire Underwriters estimated that fire losses in the United States had totaled \$692,635,000—it was felt that this figure, 23½ percent over 1946, would be a peak one. Therefore, it is good to note that the 1948 total will show an over-all decline of approximately 10 percent. These encouraging trends downward cannot help but relieve the ultra-conservative attitude of fire underwriters toward the acceptance of new business.

Inland Marine. Jewelry, Fur and Personal Property Floaters, as well as similar policies, are written by what is called Inland Marine companies. In 1947, these companies showed an 18 percent increase over the 1946 figures, when they hit a premium income of approximately \$172,000,000. In 1948, the increase was judged to be about 10 percent, thus bringing these companies within easy reach of the enviable \$200 million figure.

With business reportedly leveling off in some lines, and with the acute unrest prevailing in foreign affairs, insurance men cannot foresee clearly the trend of premium production for 1949. Rate increases will help, of course, and since the insurable values are not as yet declining, and particularly since the volume of merchandise being shipped over the nation's railroad tracks, airfreight lines and trucks, has in no way been reduced, Inland Marine men are rather optimistic as to the future.

Life. Effective Jan. 1, 1948, the most important change in many a year was made by 167 U.S. life insurance companies representing 96 percent of the total life insurance owned, when these companies adopted the new Commissioners' 1941 Standard Ordinary Mortality Table. At the same time, because of reduced earnings on their investments, the life companies were obliged to reduce their interest factor from 3 percent to 2¾ percent and in some cases as low as 2½ percent and 2 percent.

This reduction meant generally higher premium rates particularly on retirement income and endowment plans. However, due to increased values, the net cost of many of these policies will hereafter be lower. It was also felt more appreciably in 1948 that the taking into the life insurance ranks of former GI's was having a real effect. In most cases, the men are taken on under a commission and salary arrangement, and the salary continues while they are being trained. As a whole, these men are working out satisfactorily and producing results of which they may well be proud.

In view of the increased activity of companies in the multiple housing field, there was written into the National Housing Act, now administrative rules and regulations, which will give this type investment impetus, and which accounts for the renewed interest of powerful life insurance companies in this work.

As for the total life insurance produced in 1948, we once more find an increase of about 5 percent. When one realizes the billions of dollars of life insurance presently in force, such an increase is far greater than the insignificant percentage figure might indicate. This speaks volumes for the confidence on the part of the public in our life insurance companies, and warrants the repetition here of the words of Mr. Leroy A. Lincoln, President of the Metropolitan Life Insurance Company, who said:

"During the five-year period of low employment and low incomes and of heavy borrowing by policyowners, life insurance companies paid to them and to their beneficiaries, the stupendous sum of \$15,000 million. The significance of this figure is not in its size. The unforgettable lesson which is

taught is that, in a period of apprehension engendered by bankruptcies in almost every segment of the national economy, the confidence of the people in the institution of life insurance was never shaken. That confidence was fully justified by the magnificent record during these trying years, which record will bear comparison with the record of any line of business, whether under the aegis of Government or otherwise."

But, in spite of these heartening words, early in December, 1948, a Congressman made a renewal of the suggestion that possibly it would be a good idea for the Government to take over the billions of dollars in assets which the great life insurance companies of America possess. It is difficult for some men to understand why such vast funds are retained by companies, when the money could be put to work building a school in Chicken Foot Corner or a bridge across the creek in Squeedunk. And whereas such ideas have sprung up before and died a natural death, it simply adds another headache to the heads of insurance companies.

In this connection, it is interesting to note that at the thirteenth annual meeting of the United States Chamber of Commerce last spring, the encroachment of the Federal Government into any phase of the insurance business "which is now, or can be, successfully conducted by the privately operated insurance companies" was vigorously scored.

Marine. Members of the American Institute of Marine Underwriters seem perfectly content with the results for 1948, and the reason for this may be best shown through the approximations given in the accompanying table.

Premiums Written	Year	Losses Paid
\$ 32,000,000	1921	\$29,000,000
35,000,000	1925	28,000,000
35,000,000	1930	14,000,000
32,500,000	1935	20,000,000
90,000,000	1940	25,000,000
110,000,000	1945	48,000,000
150,000,000	1948	65,000,000

The figures are practically self explanatory and give an excellent picture of why most marine men are pleased with the results for the year.

Suretyship. Again in 1948, as in 1947, there were several startling defalcations which received great publicity in the daily press. Most prominent of these was the \$657,000 defalcation by Court Judge Pellecchia of Newark, N.J. As the result of this, a bond cancellation bill was signed by Acting Governor Summerell requiring that bonds may not be cancelled for any reason unless notice of intention to cancel is filed with the New Jersey Department of Banking and Insurance at least five days before the effective date of cancellation. But, the over-all experience in the fidelity and surety field continued to be good in 1948 and there was a decided underwriting profit for the year.

It was a boom year in contract bond writings, due to highway building programs and the construction of a great number of new plants, schools, business buildings, tunnels, bridges and private buildings. In some types of bonds, such as bankers and brokers bonds, there were losses because of increased claims and many rate reductions in the last few years. Some underwriters feel that the present rate structure on this type of business will not hold up much longer. But, the general picture for the year was particularly satisfactory.

—MERVIN L. LANE

INTER-AMERICAN AFFAIRS, Institute of (IAA). The Institute of Inter-American Affairs is administering

programs, in collaboration with the governments of the other American republics, in public health, sanitation, education and agriculture. During 1948 the Institute conducted 25 such cooperative programs, spread over 16 Latin American republics.

The present Institute of Inter-American Affairs was chartered by the Congress of the United States as a wholly-owned Government corporation in an Act approved on Aug. 5, 1947—Public Law 369, Eightieth Congress, First Session. The Institute is the successor of two Government corporations (known as The Institute of Inter-American Affairs and the Inter-American Educational Foundation, Inc.) which had been chartered under the laws of Delaware under authority granted by Congress to the former Coordinator of Inter-American Affairs.

The statute chartering the Institute directs the Institute to seek to strengthen friendship and understanding among the peoples of the American republics through collaboration with the governments of the other republics on programs and projects in public health, sanitation, agriculture, education and related fields. The Institute is governed by a Board of Directors appointed by, and responsible to, the Secretary of State of the United States.

In its work the Institute is confined to cooperation with the other American republics in the development of their basic economies. It has become quite clear that the strongest need of the Latin American republics is for assistance and guidance on what are, perhaps, the three most fundamental problems of any nation: public health, education, and food supply. It is to these objectives that the recent work of the Institute has been confined.

The cooperative programs administered by the Institute during 1948 were, as follows:

Health and Sanitation Division. Since 1942 the Health and Sanitation Division of The Institute of Inter-American Affairs has carried out cooperative health programs on a bilateral basis with 19 Latin American countries. An international agreement called the Basic Agreement, negotiated between an Institute representative and a representative of the Latin American government, states the financial, material, and personnel contributions to be made by each country participating in the particular agreement.

Upon the basis of the original agreement, the work in each country has been carried out through the medium of the "Cooperative Health Service" which is an agency set up within the framework of the local ministry of health and is composed chiefly of national personnel, but under the professional guidance of a "field party" of United States personnel, including one or more doctors, engineers, nurses, entomologists, etc., who work to convey the technical "know-how" of public health work to the Latin Americans. By actually participating in public health projects, Latin American technicians acquire a practical knowledge of public health work.

The objective of the cooperative work is the general improvement of public health in the western hemisphere, with emphasis on preventive rather than therapeutic medicine—i.e. on the eradication of disease by removing the causes of disease.

Among the different categories of activities carried out by the Cooperative Health Services to achieve this end are: (1) *Environmental Sanitation*, which includes the building of water supply systems, sewerage disposal systems, slaughterhouses, laundries, and privies;

(2) the *establishment of health facilities* such as Health Centers which provide numerous services including assistance and instruction in mater-

nal and child care—prenatal, delivery, postnatal, pre-school, and school age child care; instruction in personal hygiene and home sanitation; tuberculosis and venereal disease control; immunizations; dental hygiene; and laboratory examinations; over 2 million visits have been made to these Health Centers;

(3) the *control of specific endemic diseases* such as yaws, typhus fever, schistosomiasis, pinta, onchocerciasis, typhoid fever, hookworm, and malaria, this control encompassing such activities as making surveys, conducting research and experiments on ways of eradicating the vectors of disease and of treating infected persons;

(4) *health education* of the lay public to teach the people the causes of disease and how to avoid infection, through the media of pamphlets, posters, lectures, health clubs, radio programs, and, most particularly, a series of animated cartoons and live-action health films; the latter have been very effective in presenting the basic facts of health and sanitation to the general public;

(5) *training* of professional and technical personnel, locally and in the United States, to carry on the public health work when United States direction is withdrawn.

Primarily, the projects undertaken by the Cooperative Health Services were demonstration projects, carried out in strategic areas, to instruct the local people and interest them in carrying on an expanded program. By 1948 it was evident that the public health movements in the respective Latin American countries where the Health and Sanitation Division had field parties were gaining momentum as more and more communities and community leaders saw the economic and personal advantages of a sanitary environment.

The one-sided financial contributions (in many instances, the contribution of the Latin American country is 8 or 10 times that of the United States) give strong evidence of increasing Latin American interest in public health as do the ambitious plans for expanded nationwide programs which the respective national governments are strongly endorsing.

In addition to the long-range achievements of the Health and Sanitation program, there are immediate benefits to the people from this public health program. It is estimated that about 25 million people have been materially affected by the environmental sanitation activities of the Cooperative Health Services.

During 1948, agreements to continue the cooperative health programs were consummated with Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Paraguay, Peru, Uruguay, and Venezuela. Programs with Costa Rica, Dominican Republic, Nicaragua, and Panama had been completed prior to 1948.

At the end of 1948, the Cooperative Health Services had undertaken approximately 1,950 separate public health activities, with more than 1,350 of them completed. These included the construction of about 80 health centers, 70 hospitals, 23 dispensaries, 70 water supply systems; 45 sewerage disposal systems, and about 200 general community sanitation projects such as privy construction in rural areas; extensive use of DDT for malaria control; 135 permanent malaria control projects which involved extensive drainage and filling of mosquito breeding areas; assistance to nurse training programs in 18 countries; more than 100 local training courses for visiting nurses, midwives, sanitarians, health education teachers, and countrywide health education projects in almost all of the countries.

During 1948 about 180 United States personnel in Latin America were working with approximately 300 Latin American doctors, engineers, nurses, and other technical and professional personnel and about 5600 unskilled workmen.

Education Division. The work of the Education Division is entirely in the field of fundamental education. It includes those elements of education which are designed to bring to the masses of the people (as distinguished from the few who progress to the university and post-graduate levels) the essential instruction and skills necessary to enable them to read and write, to understand the problems of their communities and contribute to their solution, to improve the health and living standards of their communities, and to learn the fundamental skills which will enable them to add to their earning power and thus contribute also to the economic strength of their communities.

The form which the work takes in an individual country depends upon local conditions, needs, and expressed desires. These are cooperative programs, on a bilateral basis, and it is an essential part of the Division's philosophy that its program is one of helping neighbors to help themselves, in building stronger national systems of education based upon local *mores* and conditions, rather than the introduction of an alien system.

In one country, the expressed need may be for a revamping of rural, elementary education; in another it may be the organization or reorganization of vocational training; in another, the strengthening of vocational agriculture; in another, a combination of activities.

The work is carried on through a "Servicio," an important device for carrying out cooperative projects. The Servicio is a part of the Ministry of Education (or of Agriculture), staffed chiefly by employees of the Ministry. In most instances, however, the Special Representative of the Education Division of the IIAA is named by the Minister as Director of the Servicio, so that in his relations with the Minister he acts substantially as an official of the Ministry.

The Education Division during 1948 had cooperative programs with immediate and long-range objectives in 11 Latin American countries. Altogether, it had sent about 80 educational specialists from the United States to work with the Ministers of Education in the other republics on programs of vocational, health, and rural education, and teacher training and secondary education. During its entire operations, nearly 600,000 books, pamphlets, maps, charts and other teaching materials have been made available to field parties in the other American republics. Also, 200 trainees and distinguished educators from those countries have been brought to the United States for lectures, study, and other educational activities.

Each country has its own peculiar education problems, and consequently the type of program developed by the Division has varied from country to country, in accordance with those problems. All, however, provide for: (1) The sending of a small group of United States educational specialists to work with the Minister of Education and his staff. (2) The development of teaching materials. (3) The bringing of distinguished educators, supervisors and teachers to the United States to lecture, study, and to participate in national, state and local educational programs.

Food Supply Division. In 1948 the Food Supply Division completed six and one-half years of operation in other American republics. Established in wartime to meet emergency food problems, the

Division now combats chronic unfavorable conditions in the other Americas. Need for agricultural assistance of this kind by the United States was recognized in July, 1945, by the Third Inter-American Conference on Agriculture at Caracas, Venezuela.

Immediate objectives of Food Supply program are (1) to increase production of food crops urgently needed for local consumption; (2) to demonstrate tested practices and standards which lead to a higher level of living and increased purchasing power for the people.

The Food Supply program has been carried forward in the other American republics under the technical supervision of field parties from the United States. The technicians in these field parties have usually functioned as members of a Servicio, or cooperative service staffed by representatives of both the United States and the host country. Since 1942 agreements have been signed with Brazil, Costa Rica, El Salvador, Haiti, Honduras, Nicaragua, Panama, Paraguay, Peru, and Venezuela. These agreements outline the type of work to be undertaken in the respective countries, and provide for the execution of specific project agreements describing in detail the work to be done.

Present project operations are classified into two categories, as follows: (1) *Reclamation and Utilization of New Areas:* reclamation through irrigation and drainage; opening new lands through improvement of transportation systems; construction of storage facilities; ground water development; development of fisheries; (2) *Intensification of Existing Agriculture:* introduction of modern equipment and materials on the farm; encouragement of improved farm and home management, including introduction of better crops, livestock, and insect and disease control measures; conservation of soil, including reforestation; introduction of credit systems for farm operations; training of nationals.

During 1948 agricultural programs were carried on in the countries of Costa Rica, Haiti, Paraguay, and Peru.

(a) In Costa Rica emphasis was placed on countrywide expansion of the agricultural extension service and the incorporation within it of home demonstration work.

(b) In Haiti the development work in the Artibonite Valley continued, laying the groundwork for the proposed \$4 million Export-Import Bank loan for rehabilitation of the 150,000 acre area. In the Fonds Parisien valley a project was completed providing for the irrigation of 1,500 acres of farm land in a once important agricultural region. Emphasis is now turning toward development of an agricultural extension service, which will follow up the construction work with instruction in modern farming methods.

(c) In Paraguay, 1948 saw a considerable expansion of the Institute's technical staff to allow for more rapid development of the supervised credit activity, and for greater emphasis on colonization, rice production, and training of Paraguayan technicians. Operation of the National Institute of Agronomy, the 27,000-acre livestock ranch, the model dairy and pasteurization plant, and technical supervision of the credit project continued.

(d) In Peru, where 80 agricultural extension offices and several machinery pools span the country, steady progress was made toward integration of those basic projects. The chief problem, the lack of technicians and agricultural mechanics, is being overcome by increased emphasis on training. A beginning was made in a project for overall economic development in the Camaná Valley in co-

operation with the Education and Health and Sanitation Divisions of the Institute.

—DILLON S. MYER

INTER-AMERICAN DEFENSE BOARD. An organization composed of military delegates representing the Armies, Navies, and Air Forces and appointed by each of the Governments of the 21 American Republics. It was established in accordance with Resolution XXXIX of the Meeting of Foreign Ministers at Rio de Janeiro, Brazil, in January, 1942, and given permanency by Resolution XXXIV of the Ninth International Conference of American States held in Bogotá, Colombia, in April, 1948. The Board is an autonomous international organization within the framework of the Organization of American States. Its mission is to study and to recommend to the Governments of the American Republics measures necessary for closer military collaboration looking toward the defense of the Western Hemisphere. Plenary sessions are held twice monthly in Washington, D.C. Chairman: Lt. Gen. Willis D. Crittenger; Coordinator: Brig. Gen. L. Mathewson; Secretary General: Colonel Douglas B. Smith.

INTERGOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION, Preparatory Committee for the. Established by the United Nations Maritime Conference at Geneva, Feb. 19 to Mar. 6, 1948, held for the purpose of forming the first permanent intergovernmental organization in the field of maritime transport. The conference grew out of a report by the United Nations Temporary Transport and Communications Commission, issued in May, 1946, stating that there was no permanent intergovernmental organization in the shipping field although there was a large number of international agreements concerned with shipping. Acting upon the report, the UN Economic and Social Council took steps toward the 32-nation Maritime Conference.

The conference adopted the Convention for the Intergovernmental Maritime Consultative Organization (IMCO), which will come into force when ratified by 21 nations, of which seven shall each have a total of at least one million gross tons of shipping. The conference also prepared a draft agreement under which the IMCO will operate as a specialized agency of the United Nations; the agreement subsequently was approved by the UN General Assembly and will come into effect when accepted by the IMCO Assembly. Finally, the Conference established a 12-nation Preparatory Committee to make the necessary administrative arrangements for the permanent IMCO.

The permanent organization will seek to promote intergovernmental cooperation in the technical problems of international shipping; to encourage general adoption of the highest standards for the safety and efficiency of maritime navigation; to seek the removal of discriminatory action and unnecessary restrictions by governments affecting international shipping; and to consider unfair restrictive practices by shipping concerns. The IMCO will work toward these ends through an Assembly of all members, which will meet at least every two years; a Council of 16 nations, eight of which will represent the providers of international shipping and eight the consumers; a Maritime Safety Committee, which will consider such matters as the construction and equipment of vessels, handling of dangerous cargoes, maritime safety requirements, etc.; and a Secretariat headed by a Secretary-General.

The Preparatory Committee, which held its first

meeting at Geneva Mar. 6, 1948, and a second session at Lake Success, N.Y., Nov. 30 and Dec. 1, 1948, has confined its work to procedural matters. At its second session the Committee approved a proposed budget of £20,000 per annum for the first 2 years of the permanent organization, the headquarters of which will be in London. To cover expenses of the interim period, the Preparatory Committee requested a UN loan of \$50,000.

The Committee also adopted a provisional agenda and draft rules of procedure for the first IMCO Assembly, took other action to fulfill the functions assigned to it, and agreed to meet again immediately before the first IMCO Assembly or at an earlier date should urgent and important questions arise. The secretariat for the Committee's interim work is being provided by the UN Division of Transport and Communications.

The following governments are members of the Preparatory Committee: Argentina, Australia, Belgium, Canada, France, Greece, India, Netherlands, Norway, Sweden, United Kingdom, U.S.A.

Chairman, J. V. Clyne, Canada; Executive Secretary, Branko Lukac, Director, UN Division of Transport and Communications.

(This article was prepared by the Specialized Agencies Section, United Nations Department of Public Information.)

INTERIOR, U.S. Department of. A Department of the U.S. Government, created in 1849 and charged with the responsibility for advancing the domestic interests of the people of the United States. In 1948 it comprised the following principal branches:

- Office of the Secretary
- Bureau of Land Management
- Bureau of Indian Affairs
- Geological Survey
- Bureau of Reclamation
- Bureau of Mines
- National Park Service
- Fish and Wildlife Service
- Bonneville Power Administration
- Southwestern Power Administration
- Puerto Rico Reconstruction Administration
- Oil and Gas Division
- U.S. Board on Geographic Names
- Division of Territories and Island Possessions
- Division of Power
- Office of Land Utilization
- Office of the Solicitor
- Division of Information
- Division of Budget and Administrative Management
- Division of Administrative Services
- Division of Personnel Supervision and Management

Secretary of the Interior in 1948: Julius A. Krug; Under Secretary, Oscar L. Chapman.

INTERNAL REVENUE, Bureau of. A division of the U.S. Department of the Treasury, created in 1862. It supervises the determination, assessment, and collection of all internal revenue taxes and enforces internal revenue laws. In addition it is charged with the administration of various taxes which have a regulatory, rather than a revenue purpose, such as fully automatic firearms and oleomargarine. Collections for the fiscal year ended June 30, 1948, included: Corporation and individual income and excess profits taxes, \$31,172,190,533; Social Security and Railroad Retirement taxes, \$2,381,342,353; Miscellaneous taxes, \$8,311,009,409. Major divisions are the Income Tax Unit, Alcohol Tax Unit, Accounts and Collections Unit, Miscellaneous Tax Unit, Employment Tax Unit, Technical Staff, Intelligence Unit, and Excess Profits Tax Council. Headquarters: Washington 25, D.C. Commissioner: George J. Schoeneman.

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT. An organization conceived at the

Bretton Woods Conference in July, 1944. It came into official existence Dec. 27, 1945, when its Articles of Agreement received ratification by the necessary number of member nations. As of December, 1948, forty-five nations were members of the Bank. The function of the Bank is to facilitate the international flow of capital with the objective of increasing world production. Its purposes, in summary, are: (1) To assist in the reconstruction of economies disrupted by war, their reconversion to peacetime needs, and the development of underdeveloped countries; (2) To promote private investment whenever feasible and supplement it where necessary; (3) To advance the long-range growth of international trade and improvement in world living standards.

The subscribed capital stock of the Bank, in currencies of all member nations, is approximately \$8,000 million, but only 20 percent is paid in capital and of this amount only about \$330 million is in the form of U.S. dollars immediately available for lending; 80 percent of the capital stock constitutes a reserve fund subject to call if necessary to meet the Bank's own obligations. The major part of the Bank's loanable funds will come from the sale of its bonds to private investors.

On Nov. 15, 1947, an agreement between the Bank and the United Nations came into effect defining the Bank's position as a specialized international agency, emphasizing its cooperative role in relation to the United Nations while preserving its independent judgment with regard to loan operations. See FOREIGN EXCHANGE.

On Mar. 17, 1947, John J. McCloy, former U.S. Assistant Secretary of War, took office as the new president of the Bank; and Robert L. Garner, former financial vice-president of General Foods Corporation, became its vice president and general manager. The Management is responsible to a board of 14 Executive Directors chosen by the member nations; final authority is vested in the Bank's Board of Governors, consisting of the highest financial official of each member nation.

As of Nov. 15, 1948, the Bank had approved loans totaling \$525 million to the following borrowers: France, The Netherlands, Denmark, Luxembourg, Chile, and four leading Dutch shipping companies. It was conducting active loan discussions concerning other productive projects in some 20 member countries. For the fiscal year ended June 30, 1948, the Bank reported a net excess of income over expenses of approximately \$1 million. Headquarters: 1818 H St. NW, Washington 25, D.C. The Bank's Marketing Department has offices at 33 Liberty St., New York 5, N.Y.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO). This organization came into being on Apr. 4, 1947, when the required number of states (26) had ratified the Convention on International Civil Aviation. The ICAO replaced the Provisional International Civil Aviation Organization (PICAO), which had been operating since June 6, 1945. Both ICAO and PICAO derive their powers from agreements drawn up by the Conference on International Civil Aviation held at Chicago, November-December, 1944. Fifty-one nations were members of the ICAO on Nov. 1, 1948.

The duties and objectives of ICAO are summed up in the Preamble to the Convention, as follows: to insure that "international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically." The principal

organs of the ICAO are the Assembly, composed of all member states, which meets annually; the Council, comprised of 34 member nations elected by the Assembly, which meets continuously; and the Secretariat, which is recruited on a broad international basis. There are five special bodies, which are subsidiary to the Council: Air Navigation Committee, Air Transport, Legal, Joint Support of Air Navigation Services, and Finance Committees.

Under the terms of an agreement approved by the United Nations General Assembly on Dec. 14, 1946, and by the First Assembly of the International Civil Aviation Organization on May 18, 1947, ICAO is a Specialized Agency related to the United Nations.

Principal Officials: President of the Council, Edward Warner; Secretary General, Albert Roper; Deputy Secretary General, A. R. McComb; Assistant to President, M. H. Hyman; External Relations Officer, E. R. Marlin; Public Information Officer, R. A. Draper. Address: Dominion Square Building, Montreal, Canada.

Outstanding Events of 1948. During 1948 the ICAO Council approved the first six of a series of International Standards and Recommended Practices to guide the conduct of international civil air transport. The Standards were on the licensing of aviation personnel, on aeronautical maps and charts, rules of the air, dimensional practices, meteorological codes, and operation of scheduled international aircraft. Implementation of these standards will be an important step toward the achievement of world wide unification of practices and procedures in international civil aviation, one of the principal objectives of ICAO.

Another major event during 1948 was the conclusion of an agreement between the Government of Iceland and ICAO for the international financing of air navigation facilities in Iceland needed for the safe and efficient operation of air transport across the North Atlantic Ocean.

The ICAO Second Assembly was held in Geneva in June and Regional Air Navigation Meetings were held in May (for the European Mediterranean region and the North Atlantic region, in Paris) in July (for the North Pacific region, in Seattle) and in November (for the South-East Asia region, in New Delhi).

Headquarters: North American Office, Dominion Square Building, Montreal, P.Q., Canada. European and African Office: 60 bis Avenue d'Iena, Paris 16e, France. Middle East Office: 10 Sharin Lotfallah Apt. 7, Zamalek, Cairo, Egypt. Far East and Pacific Office: 522 Little Collins Street, Melbourne, Australia. South American Office: Apartado 680, Lima, Peru.

INTERNATIONAL FINANCE, Office of. An Office of the United States Treasury Department, established July 15, 1947, by Treasury Department Order 86, of July 10, 1947, which abolished the Division of Monetary Research in the Office of the Secretary and transferred all its functions, duties, and personnel, as well as those of the Foreign Funds Control, to the new Office. The Office of International Finance, through its Director, is responsible for advising and assisting the Secretary of the Treasury in the formulation and execution of policies and programs relating to the international financial and monetary field. Acting Director: George H. Willis.

INTERNATIONAL INFORMATION and EDUCATIONAL EXCHANGE (OIE and OEX). The agencies within the U.S. Department of State whose function is "to

promote a better understanding of the United States in other countries." OII carries out information activities for this purpose by means of short-wave radio, press, and motion pictures. OEX performs the educational and cultural functions through overseas libraries of the United States Government, exchange-of-persons programs with other countries, projects involving scientific and cultural cooperation with other governments, and related activities.

These programs received legislative authorization on Jan. 27, 1948, with passage of the Smith-Mundt Act by the 80th Congress. This Act and its subsequent appropriation made possible an expansion of existing facilities and permitted the resumption of several functions suspended during the previous year of 1947 as a result of inadequate appropriations.

U.S. Government radio broadcasts were carried on 24 program hours a day to Europe, the Far East and Latin America over 36 short-wave transmitters to an audience estimated at 30 million. Some 800 16-millimeter projectors and 40 mobile units were operated abroad to insure maximum distribution of motion pictures, which are seen by an estimated 900 million persons a month. Most of the films are made by private organizations and adapted to overseas use by OII, which also prepares short film subjects, documentaries, and newsreels. Daily news and feature material for overseas publication was supplemented during 1948 by several additional regional services as well as an expanded flow of photographic material. The Russian-language *Amerika*, published by this agency, continued to prove popular in the Soviet Union, where 50,000 copies were sold each month.

Cultural activities, including the maintenance of libraries and exchange of persons with other nations, were similarly expanded. Sixty-two libraries had been established abroad as of December, 1948, with 21 additional libraries being proposed by June, 1949. In Latin America 28 cultural centers received assistance, as did 270 American-sponsored schools providing American-type elementary and secondary education. The exchange of students, scholars and technicians has been continued in Latin America, and has been authorized for other parts of the world by the Smith-Mundt Act and Fulbright Act of the 79th Congress. In conjunction with foreign governments and 25 technical bureaus within ten agencies of the U.S. Government, co-operative exchange projects have been carried on with other countries in scientific and technical fields such as agricultural development, public health, geological and mineral investigations, and labor and safety standards.

The Government continued during 1948 to seek the widest participation of private agencies in international information and education. More than 500 American organizations now engage in some form of international education activity.

George V. Allen, a career diplomat, was appointed to direct these activities as Assistant Secretary of State for Public Affairs. Lloyd Lehrbas is Director of the Office of International Information; William C. Johnstone, Jr. is Director of the Office of Educational Exchange. Division chiefs include Charles W. Thayer, International Broadcasting Division; Herbert T. Edwards, International Motion Pictures Division; Jack C. McDermott, International Press and Publications Division; Francis J. Colligan, Acting Chief, Division of Exchange of Persons; and L. S. Morris, Acting Chief, Division of Libraries and Institutes. Haldore Hanson directs the program of scientific and technical cooperation.

INTERNATIONAL LABOR ORGANIZATION (ILO). An association of 60 nations financed by governments and democratically controlled by government, labor, and management representatives. The ILO's constitution was a part of the treaties of peace after the first World War. Established in 1919, it functioned in the interwar period as an autonomous associate of the League of Nations. The ILO is now a specialized agency of the United Nations under an agreement approved by the International Labor Conference in September, 1946, and by the General Assembly of the United Nations in December, 1946. The purposes of the Organization are set forth in its constitution, the preamble of which states that "lasting peace can be established only if it is based on social justice."

In order to achieve the objectives outlined in its constitution and in the declaration, the ILO seeks by international action to improve labor conditions, raise labor standards and promote economic and social stability. It brings together representatives of labor, management, and governments to formulate minimum labor standards. These standards are embodied in special treaties which are called International Labor Conventions and Recommendations. The conventions, which require a two-thirds majority for adoption by the conference, are submitted to member countries for ratification. They cover a wide range of subjects including: hours of work, minimum age for employment, workmen's compensation, working conditions of women and young workers, social insurance, social standards in non-metropolitan territories, vacations with pay, industrial safety, statistics, maritime employment, and migration. As of December, 1948, a total of 90 conventions and 83 recommendations have been adopted. More than 1,000 individual ratifications have been registered on the conventions by member governments. Under the obligations imposed by the ILO's constitution, member governments are required to bring conventions adopted by the conference to the attention of their national legislatures. If ratified, the government assumes an obligation to bring its legislation into line with the provisions of the convention and to report annually to the ILO on the measures taken. Recommendations adopted by the conference are submitted to the national legislatures for information and guidance.

The International Labor Conference at which these conventions are adopted meets annually. Among the duties of the delegates is the election at three-year intervals of the governing body, which is made up of 16 government, 8 management, and 8 labor representatives. The governing body selects items for the agenda of the conference, appoints the director-general, supervises the work of the ILO and of its various committees and commissions. Chairman of the Governing Body: Shamaldharee Lall, Secretary of the Ministry of Labor in India. Employer Vice Chairman: Sir John Forbes Watson of the United Kingdom. Worker Vice Chairman: Leon Jouhaux of France.

The third part of the Organization's machinery is the International Labor Office. It acts as the permanent secretariat of the Organization, prepares reports for the conference, issues publications, and lends technical assistance to member governments. Director General: David A. Morse. Headquarters of the International Labor Office: Geneva, Switzerland.

The 1948 International Labor Conference held in San Francisco in June adopted four conventions covering freedom of association, employment service organizations, and two revisions of conventions

passed by earlier sessions of the conference on night work of women and young persons. The Conference also approved a formal Recommendation designed to supplement provisions of the convention on employment services. It agreed that at next year's conference consideration should be given to international minimum standards governing (1) vocational guidance, (2) labor clauses in public contracts, (3) the full and prompt payment of workers' wages, and (4) the application of the principles of the right to organize.

During 1948 other important I.L.O. meetings, beside the Conference and regular meetings of the Governing Body included: Industrial Committees on Chemicals, Petroleum Production and Refining, and Textiles; the Joint Maritime Commission; the Permanent Migration Committee; the Preparatory Technical Conference on Safety in Factories; and the Preparatory Conference on Labor Inspection in Asian Countries at Kandy, Ceylon.

INTERNATIONAL MONETARY FUND. The International Monetary Fund was established in accordance with Articles of Agreement adopted by representatives of 44 governments at the United Nations Monetary and Financial Conference, Bretton Woods, N.H. in July, 1944. The Articles of Agreement came into force on Dec. 27, 1945, and at the time of the first meeting of the Executive Directors on May 6, 1946, 38 signatory countries had become members. Subsequently, 3 more original signatories of the Bretton Woods Agreement also became members, and 6 others, making a total membership today of 47.

The main purposes of the Fund, as set out in the Articles of Agreement, are: (1) to promote international monetary cooperation through a permanent institution which provides machinery for consultation and collaboration on international monetary problems, and, more specifically, (2) to promote exchange stability and avoid competitive exchange depreciation, (3) to assist in the establishment of a multilateral system of payments in respect to current transactions, which means the eventual elimination of restrictions on the making of payments and transfers for current international transactions and the avoidance of discriminatory currency arrangements or multiple currency practices, and (4) to permit members, under appropriate conditions, to use the resources of the Fund with a view to shortening the duration and lessening the degree of any disequilibrium which may from time to time arise in their balances of payments.

The Fund obtains its resources from the payment by members of quotas, the size of which was agreed for original members at Bretton Woods. Each member pays in gold either 25 percent of its quota or 10 percent of the member's net official holdings of gold and U.S. dollars, whichever is the smaller, and the remainder of its quota in its own currency. The aggregate of members' quotas as of Nov. 30, 1948, was equivalent to \$8,034 million. Total subscriptions paid as of that date amounted to the equivalent of \$6,852.6 million, of which \$1,398 million was held by the Fund in gold. The rights of members, after payment of their subscriptions, to obtain foreign exchange from the Fund are also determined by reference to their quotas.

Members are under an obligation, once the foreign exchange values of their currencies have been agreed with the Fund, to make no change in their exchange rates without consultation with the Fund. The Fund, however, is not entitled to object if the

proposed change does not exceed 10 percent of the original par value. Agreed par values were announced on Dec. 18, 1946, for 32 members, to which 7 others have subsequently been added. Total exchange transactions of the Fund reported through Nov. 30, 1947, were the equivalent of \$648.9 million.

Of the 14 Executive Directors of the Fund, 5 represent the members with the largest quotas: United States, United Kingdom, China, France, and India. The voting power of the Executive Directors is approximately proportional to the quotas of the member or members whom they represent. The United States Executive Director is therefore entitled to cast 30.13 percent of the total votes of the Executive Directors, based on a United States quota of \$2,750 million.

Camille Gutt, former Minister of Finance of Belgium, is Managing Director of the Fund, and Chairman of the Executive Directors. Other officers include M. H. Parsons, Director of Operations; E. M. Bernstein, Director of Research; Andre Van Campenhout, Chief Counsel; C. M. Powell, Comptroller and Fraud Co-ordinator; Andrew N. Overby, United States Executive Director, has been named Deputy Managing Director and will assume that post at a date not yet fixed.

While working relations with the United Nations are close, the Fund, as an organization, is independent of the United Nations. An agreement, setting forth the basis of the working relationships with the United Nations has been approved by the Board of Governors of the Fund and by the General Assembly of the United Nations, Headquarters: 1818 H St., N.W. Washington 6, D.C.

INTERNATIONAL REFUGEE ORGANIZATION (IRO). The International Refugee Organization is a non-permanent specialized agency of the United Nations. It came into being on Aug. 20, 1948, when the constitutional requirements for its official existence were fulfilled. Ratification of the Constitution by fifteen member nations of the United Nations, whose contributions totaled at least 75 percent of its first year's operational budget (as opposed to its purely administrative budget) had been required.

Before IRO came into official existence, its functions were carried on by a Preparatory Commission (PCIRO) which assumed on July 1, 1947, the functions previously exercised by its predecessor organizations—the United Nations Relief and Rehabilitation Administration and the Intergovernmental Committee on Refugees.

Summary of Operations. Under the terms of its Constitution IRO is responsible for the care of approximately 1,600,000 refugees; approximately 550,000 of these are pre-war refugees who, although they have not acquired new nationality, are more or less integrated in their present countries of residence. The remainder are victims of the Second World War, the vast majority of whom are in Germany and Austria.

In carrying out its responsibilities to these refugees, IRO provides food, shelter, and other care for those who are unable to maintain themselves. On Sept. 30, 1948, there were 699,815 persons receiving some form of assistance from IRO, either in one of the more than 600 installations maintained in Germany, Austria, Italy, the Middle East, the Far East, or outside of these installations.

In addition to providing minimum subsistence necessities to those persons requiring such assistance, IRO is responsible for encouraging the repatriation of all those who wish to return to their countries of origin. During the period July 1, 1947,

to Oct. 31, 1948, a total of 58,093 persons returned to their homelands with the assistance of IRO.

For refugees having valid reasons against repatriation, IRO makes arrangements for their resettlement in new countries. As of Oct. 31, 1948, a total of 276,650 persons had been resettled in more than 70 countries on five continents. In order to carry out its resettlement program, IRO maintains a fleet of ships operated on a charter basis to transport refugees to such overseas destinations as Canada, Australia, various South American countries, and the United States.

IRO also provides legal protection and assistance to refugees and displaced persons to whom the protection of their countries of former nationality or residence is not available.

Members. The following governments have signed the IRO Constitution and are full members: Australia, Belgium, Canada, China, Denmark, Dominican Republic, France, Guatemala, Iceland, Luxembourg, Netherlands, New Zealand, Norway, United Kingdom, United States, Venezuela. The following governments have signed the IRO Constitution but have not completed ratification (their representatives are present at IRO meetings as observers): Argentina, Bolivia, Brazil, Honduras, Liberia, Panama, Peru, Philippines.

Officers. Chairman of the Executive Committee, Jean Desy (Canada). The Director General of IRO is William Hallam Tuck (U.S.A.); Deputy Director General, Sir Arthur Rucker (U.K.); Assistant Director Generals, Myer Cohen (U.S.A.), Pierre Jacobsen (France), Dr. Petrus N. M. Koolen (Netherlands). Headquarters: Palais des Nations, Geneva, Switzerland.

INTERNATIONAL TELECOMMUNICATION UNION (ITU). Created in 1934 by a merger of the International Telegraph Union, established in Paris in 1865, and the International Radiotelegraph Union, formed in Berlin in 1906. It was at first governed by the Madrid Convention, signed in 1932, but on Jan. 1, 1949, the Madrid Convention will be replaced by that of Atlantic City, N.J., signed on Oct. 2, 1947.

The purpose of the Union is to insure effective telecommunication, and the texts of regulations pertaining to the telegraph, the telephone, and the radio have been annexed to the Convention of the Union. Telegraph conferences have been convened by the Union in: Paris (1865), Vienna (1868), Rome (1872), St. Petersburg (1875), London (1879), Berlin (1885), Paris (1890), Budapest (1896), London (1903), Lisbon (1908), Paris (1925), Brussels (1928), Madrid (1932), and Cairo (1938). Radiotelegraph conferences have been held in: Berlin (1906), London (1912), Washington (1927), Madrid (1932), Cairo (1938), and Atlantic City (1947).

Relationship to the United Nations. Under an agreement reached in 1947 between the UN and the International Telecommunication Union, the UN (in consideration of Article 57 of its Charter) recognizes ITU as a specialized agency responsible for certain actions. The agreement provides for reciprocal representation in the meetings of both organizations, and determines means for the exchange of information and documents, the assistance that the Union agrees to give to the UN, and the relations of the Union with the International Court of Justice.

Annex 1 to the Atlantic City Convention lists 78 countries or groups of territories as full members of the Union, upon signature and ratification of, or accession to, the Convention. Upon the fulfillment of certain conditions, four other countries or groups

of territories may become members. The Convention provides for extension of this list under certain conditions, and for associate members.

For 1949, Chairman of the Administrative Council, Professor Paul Kouzmitch Akoulchine (U.S.S.R.); Secretary General, Dr. Franz v. Ernst (Switzerland); Assistant Secretaries General, Léon Mulatier (France) and Comm. Gerald C. Gross (U.S.A.); Chairman of International Frequency Registration Board (I.F.R.B.) and of Provisional Frequency Board (P.F.B.), Sidney H. Witt (Australia); Director of International Telephone Consultative Committee (C.C.I.F.), Georges Valensi (France); Director and Vice Directors of International Radio Consultative Committee (C.C.I.R.), Balt. van der Pol (Netherlands) and L. W. Hayes (United Kingdom). Headquarters: Palais Wilson, Geneva, Switzerland.

Outstanding events in 1948: Administrative Council of the Union (Geneva, January 20–February 11 and September 1–October 3); VI Meeting of the International Telegraph Consultative Committee (C.C.I.T.) (Brussels, May 11–27); V Meeting of the C.C.I.R. (Stockholm, July 12–31); European Broadcasting Conference (Copenhagen, June 25–September 15); Maritime Regional Radio Conference (Copenhagen, June 25–September 17); International High Frequency Broadcasting Conference (Mexico City, October 22–); International Administrative Aeronautical Radio Conference (Geneva, May 15–September 25); Provisional Frequency Board (January 15–).

The following meetings are scheduled for 1949: Administrative Council (Geneva, August 15); Extraordinary Meeting of C.C.I.T. for election of the Director, May or June; XV Meeting of the C.C.I.F. (Paris, June 7); International Administrative Telegraph and Telephone Conference (Paris, May 17); Region 1 Administrative Radio Conference (Geneva, May 18); Region 2 Administrative Radio Conference (February 15); Region 3 Administrative Radio Conference (Geneva, May 18); Special Administrative Radio Conference for the approval of the new frequency list (Geneva, October 17); International Administrative Aeronautical Radio Conference (Geneva, July 31); Special Administrative Conference for the North-East Atlantic (Loran Conference; Geneva, January 17).

INTERNATIONAL TRADE ORGANIZATION (ITO). This organization will come into being when the Havana Charter for an International Trade Organization has been accepted (by Sept. 30, 1949) by 20 governments. At the end of 1948, the Charter had been accepted by Australia, on condition that it is accepted by the United States and the United Kingdom. The Charter will, it is expected, be considered by many countries including the United States during the first half of 1949. The Havana Charter was completed on Mar. 24, 1948, when after four months of intensive labor, it was signed by 54 countries. The Charter, with its 106 articles covering every aspect of international trade relations, will be administered by ITO. Meanwhile, the ITO Interim Commission, established at Geneva, is preparing for the first ITO Conference. The Commission held its first meeting at Havana and elected an 18-member Executive Committee to which it delegated its powers. The ICITO will go out of existence when ITO is created.

The ITO will be a specialized agency of the United Nations, having close relations in particular with the International Monetary Fund and the Food and Agricultural Organization. A permanent site will be selected at its first Conference.

The Havana Charter is directed not only towards the reduction of trade barriers and the prevention or settlement of trade disputes; it also aims towards promoting economic development, especially in economically backward countries. It codifies for the first time a very wide range of customs and other commercial practices; it makes the first attack on international cartels which restrict trade; and it provides controls over the use of intergovernmental commodity agreements.

Officers: Chairman of ICITO, Max Suetens (Belgium); Chairman of Executive Committee, L. Dana Wilgress (Canada); Executive Secretary, Eric Wyndham White. Outstanding event of 1948 was the completion of the Havana Charter. Of parallel importance was the completion-- at the end of 1947--of tariff negotiations, covering two-thirds of the world's imports and exports, by 23 countries. These were incorporated in a multilateral trade treaty known as the General Agreement on Tariffs and Trade. By June 30, 1948, 22 of the 23 countries had brought the General Agreement into effect within the limits of the existing legislation of each.

Apart from the concluding stages of the Havana Conference, the Interim Commission of ITO has met once at Havana, and the Executive Committee has met twice, at Havana and Geneva respectively. The contracting parties to the General Agreement have also met twice, at Havana and Geneva respectively. A further series of tariff negotiations, sponsored by the contracting parties, will open at Amcey, France, in April 1949.

INTERSTATE COMMERCE COMMISSION (ICC). An independent establishment of the U.S. Government empowered to regulate, in the public interest, common carriers engaged in transportation in interstate commerce. (For details, see YEAR BOOK for 1940.) Part IV of the Interstate Commerce Act, approved May 16, 1942, conferred upon the Commission jurisdiction over freight forwarders. Chairman: Charles D. Mahaffie.

IOWA. A west north central State. Area: 56,280 sq. mi. Population: (July 1, 1948) 2,625,000, compared with (1940 census) 2,538,268. Chief city: Des Moines (capital), 159,819 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$153,343,000; total expenditure, \$132,651,000.

Elections. The 10 electoral votes, which went for Dewey in 1944, were Truman's in 1948. Truman received a majority of about 20,000 over Dewey and Wallace. In the Senatorial race, Democrat Guy M. Gillette defeated incumbent George A. Wilson, but all 8 Congressional seats remained Republican. Control of the State government remained Republican, with the election of William S. Beardsley as Governor, and the following officers: Lieutenant Governor--Kenneth A. Evans; Secretary of State--Melvin D. Synhorst; Attorney General--Robert L. Larson; Treasurer--J. M. Grimes; Auditor--Chet B. Akers; Superintendent of Public Instruction--Jessie M. Parker. The voters also approved an \$85 million bond issue for veterans' bonuses.

Officers, 1948. Governor, Robert D. Blue; Lieut. Governor, K. A. Evans; Secretary of State, Rollo H. Bergeson; Attorney General, Robert L. Larson; State Treasurer, J. M. Grimes; State Auditor, C. B. Akers; State Comptroller, R. E. Johnson.

IRAN (Persia). An empire in southwestern Asia, between the Caspian Sea on the north and the Persian Gulf on the south. Area: 628,000 square miles.

Population. No complete census has ever been taken; estimates of the total population vary from 15 to 18 million. Of these some 13 million are classed as rural and include from 3 to 5 million nomads. Chief cities (with population estimated): Teheran (Tehran) 682,532, Tabriz 213,542, Isfahan 204,598, Meshed 176,471, Shiraz 192,023, Resht 121,625, Abadan 110,000, and Hamadan 103,874.

Education. The educational system of the country was drastically reformed during the modernizing era of Riza Pahlavi. In 1938 there were 8,381 schools, a figure which during recent years has undoubtedly grown considerably. A university has been set up at Teheran. In general, foreign schools have been absorbed into the national educational system or have been abandoned. Most Persians are Moslems of the Shia sect, except for some 850,000 Sunnis. There are small communities of Parsees, Jews, Armenians, Nestorians, Bahais, and others.

Production. By and large Iran is a barren country abounding in vast deserts and steppes where only a sparse nomadic population can obtain sustenance. Yet much of its soil is fertile and only awaits irrigation. Despite these conditions Iran produces a wide variety of grains, fruits, and livestock. Estimated yields of the principal agricultural products (1947-48) were (in metric tons): wheat 1,345,163, barley 775,893, milled rice 65,000, ginned cotton 17,500, dates 110,000, raisins 20,000, sugar 51,861, tobacco 17,500, and tea 6,597. The number of livestock is estimated as: 13 million sheep, 6.8 million goats, and 2.5 million cattle. Horses, donkeys, and camels also are raised.

Iran long has been a principal producer of the poppy from which opium is derived. Industrialization has already begun in a small way with the production of such goods as textiles, carpets, glass, and sugar.

Many of the mineral deposits have been only partly explored and are largely undeveloped. Oil is by far the most valuable mineral product now exploited in the country. In southwestern Iran the Anglo-Iranian Oil Company has a large concession on which oil is produced, piped to refineries at Abadan on the Shatt-el-Arab and exported in large quantities. In 1947 the petroleum output of the Anglo-Iranian Oil Company was 20,520,000 tons; in 1948 (11 months) 20,774,000 tons.

Foreign Trade. Imports for the year 1947 totaled 5,800 million rials; exports (including oil) 12,630 million rials. The principal imports are manufactured goods, silverware, and art objects. With the exception of sugar and tea, which must be imported, the country is self-sufficient in food. Chief exports are oil, carpets, gum tragacanth, cereals, rice, fruits, nuts, fibers, skins, and wool.

Finance. Budget estimates (1947-48): revenue 7,799,068,000 rials; expenditure 7,762,443,000 rials (since 1946 the official rate has been 32.50 rials equal US\$; free rate as of November, 1948, 56.07 rials equal US\$). On Jan. 1, 1948, the total internal debt amounted to 4,359 million rials.

Transportation. The empire has 1,424 miles of railroads, of which the major railway line, the Trans-Iranian Railway, runs from Bandar Shahrpur on the Persian Gulf to Bandar Shah on the Caspian Sea. Total length of roads is about 15,000 miles, of which about 1,000 miles are asphalted. Four international and two national airlines provide regular service between Teheran and other points in the Middle East and Europe.

The main ports on the Persian Gulf are Korram-shahr, Abadan, and Bandar Shahpur. Chief Caspian ports are Bandar Pahlavi, Bandar Shah, and Noshahr. Government-operated telegraph lines connect the large cities of Iran. There is international cable and wireless service and a modern broadcasting station.

Defense. An American police mission has been reorganizing the country's police forces. The army, navy, and air forces have also been undergoing reorganization. The country's territorial integrity, sovereignty, and political independence were guaranteed by a treaty of alliance signed at Teheran by Great Britain, the U.S.S.R., and Iran on Jan. 29, 1942.

Government. The reigning Shah is Muhammad Riza Pahlavi, who succeeded his father, Riza Khan Pahlavi, in September, 1941, when the latter was forced to abdicate by concerted Anglo-Soviet action. The constitution provides for a National Assembly, or Majlis, to be composed of two houses: the representatives of both to be elected by the people, except half of the Senate who were to be appointed by the Shah; the second body, however, has never been constituted. The Council of Ministers, responsible to the Majlis, in addition to the Prime Minister, is composed of the ministers of Foreign Affairs, War, Finance, Interior, Justice, Education, Agriculture, Health, National Economy, Communications, Posts, Telephone and Telegraph, and Labor.

The country is divided into ten major provinces, each called an *ustan*; these in turn are divided into sub-units, or *shahristan*. These are administered by governors-general and governors, respectively, each of whom is responsible to the central government and administers his province through heads of departments appointed by the different ministries listed above. The result is a closely integrated central government.

Events, 1948. Internal Political Developments. During the year Iran had three different cabinets, with only four duplications of personnel in the three rosters—a rather small percentage as cabinet shuffles in the country generally go. The first government, which came into power in December, 1947, was headed by Ibrahim Hakimi who had preceded Ahmad Qavam a little less than two years before and had initiated Iran's appeal to the Security Council against Soviet Russia's policies in Azerbaijan.

This government did not receive a vote of confidence from the Majlis until February 26, and then only by 55 votes out of a total of 103, in spite of the fact that one of its first important official acts had been the abolition, on January 13, of the martial law which had been continuously in effect since August 1941. Martial law was reimposed by the government in the Caspian towns of Chalus, Shahi, and Shahsavari when local disturbances brought the arrest of 300 persons reported to be members of the Tudeh Party—the pro-Soviet leftist group which had been forced underground after the elections of the year before. This action elicited from 65 newspaper editors and journalists a resolution calling upon the Majlis to defend civil liberties. Hakimi won a vote of confidence on this issue, but by June 8 was forced to resign by other pressures.

The formation of a new government, led by Abdul Husayn Hazhir, believed by most to be pro-British, precipitated violent public protests on June 17, when several persons were injured in a clash with the Teheran police in Parliament Square. Although this government was finally confirmed, the opposition soon effected its fall, in early No-

vember. The present government took office November 8; its Prime Minister is Muhammad Maraghe'i Saced, who had in the fall of 1944 led the resistance to Soviet demands for an oil concession and was forced out of office by the Russians.

During the year a bill was introduced in the Majlis, and referred to the proper committee for study, providing for the implementation of the constitution by the formation of a second legislative body, to be called the Senate. It is to be composed of 60 members, half to be nominated by the Shah and half to be elected by the people. This was indicative of efforts being made to bring more stability and responsibility into the politically fragmented legislative branch of the Government.

In July Shah Muhammad Riza, an ardent sportsman, arrived in London for a non-political visit to attend the Olympic Games. He was entertained at Buckingham Palace and later traveled in France and Switzerland, in which latter place he had secured his education as a youth. In November the Egyptian court at Cairo announced the divorce of the Shah and Queen Fawzia, King Farouk's sister. They were married in 1939. Following their estrangement, she left Iran for Egypt in May, 1945, and never returned.

The Seven-Year Plan. Without doubt the most important development of the year was the projected long-term plan which called for the expenditure of \$620 million over the next 7 years. To this end the government on October 19 engaged Overseas Consultants, a concern made up of 11 American engineering construction companies, to make recommendations for the completion and implementation of this plan. The money is to be secured from the increasing oil royalties paid by the Anglo-Iranian Oil Company and by loans from the National Bank of Iran and the International Bank of Reconstruction and Development.

At present it is expected that almost one-third will be spent on the basic industry of agriculture; about one-fourth on public utilities, health and sanitation, and technical education; approximately one-seventh each on industry and mines, and on the improvement of roads, railways, ports, and airfields; with the remainder to be spent for other public works and the establishment of an Iranian oil company.

Relations with the Powers. Events in Iran are inevitably bound up with the relations of the Great Powers to each other and to Iran. The year began with considerable tension between Iran and Soviet Russia, a legacy from the previous year. On January 31, Russia presented the Iranian government with a note charging Iran with permitting the United States to establish strategic bases in Iran and, therefore, with violation of the Soviet-Iranian pact of 1921. The Iranian reply to these Soviet charges of February 4 denied each of the Soviet points and in turn accused the Soviet Union itself of violating the 1921 agreement. Meanwhile a spokesman for the U.S. Department of State denied the Soviet charges as far as the United States was concerned. The following March 24 the Soviet Union presented a second note of protest against alleged United States military activity in Iran, describing the previous Iranian denials as "unconvincing." This note also was rejected by the Iranian government.

It was shortly after these exchanges that the Iranian government requested all the three major powers to cease the publication "of any sort of press pamphlet whether magazine, newspaper, or telegraphic news." A fortnight later, on April 15, the Majlis voted to place at the head of its agenda

a bill asserting Iranian sovereignty over Bahrain Island, which has for upwards of a century been under British protection and where American oil interests are heavily involved.

Doubtless connected with this same Soviet protest and the desire of Iran to follow more strictly a "policy of balance" was the decision to reduce the executive powers of Brig. Gen. Norman Schwarzkopf, commanding the Iranian Gendarmerie. On June 20, Col. James R. Pierce replaced Gen. Schwarzkopf as chief of the gendarmerie mission under a new contract. In September Maj. Gen. Vernon Evans replaced Maj. Gen. Robert W. Grow as chief of the United States Military Mission, a mission of purely advisory character for the Iranian Quartermaster.

United States-Iranian relations continued cordial throughout this tension. Ambassador George Allen returned to the United States on February 17 to become Assistant Secretary of State and his successor, John C. Wiley, presented his credentials to the Shah the following April 6.

The Soviet protests referred to above were certainly connected with the United States-Iranian negotiations during the early part of the year which resulted in the United States' furnishing Iran \$10 million worth of "non-aggressive weapons" from war surplus, including guns, light tanks, and fighter planes, to be repaid over a 12 year period with interest at 2½ percent, together with not more than \$16 million—made possible by special legislation—to cover repair and shipping costs of the surplus material, which, of course, was actually worth several times the agreed price. Provision of these supplies on these terms makes it possible for Iran to devote more of its current resources to economic development, in which, as indicated, private American corporations have a large part.

- T. CUYLER YOUNG

IRAQ (Mesopotamia). An Arab constitutional monarchy covering the lower and middle parts of the Tigris and Euphrates river basins in Asia.

Area and Population. Area: 116,000 square miles, over 23,000 of them cultivated (almost half of them fallow) and an additional 39,000 square miles cultivable. Iraq's potential agricultural resources could support many more than the present 5 million, as the country did in the ninth century. Chief cities: Baghdad (capital), about 500,000 pop.; Mosul, about 160,000; Basra (port) about 86,000. Eighty percent of the population is Arab with an important Kurdish minority of 12 percent on the northern and eastern frontiers, zealously guarding its cultural identity. Ninety-four percent are Moslems (including the Kurds), almost equally divided between Sunnis and Shi'as; the rest are Christians and Jews.

Education. Primary education is free and compulsory. In 1946-47, in addition to the 13 foreign schools with over 1,700 pupils, there were about 1,050 primary schools with almost 150,000 pupils, about 140 secondary schools with over 20,000 pupils, 15 technical schools (agriculture, commerce, nursing, teachers' training, etc.) with over 2,000 pupils, and 8 colleges (including engineering, medicine, pharmacy and law) with almost 4,000 students. Among the many students abroad in 1948-49 were 250 studying in the United States at government expense.

Communications. Iraqi State Railways operate over 1,500 miles of important roads, 1,000 or more of them good, including Baghdad routes to Damascus and toward Palestine. American, British, French, Dutch, Swedish, and Middle Eastern airlines in-

cluding Iraqi Airways service Iraq airports. The government runs a Baghdad International Station and operates telephone and telegraph lines.

Production. Today Iraq has 75 percent of the world's date palms and produces 80 percent of the dates shipped in the international market. Wheat, barley, giant millet, and rice are important crops. Livestock is one of the principal industries, and includes sheep, goats, cattle, horses, and buffaloes. Tobacco growing is increasing. Agricultural production could be substantially increased by more intensive use of the cultivated land and more extensive irrigation and drainage works. Cigarette-manufacturing has increased, but other manufacturing industries are still embryonic despite government efforts. Most important is the petroleum industry, controlled by three large concessionaires.

The principal oilfield, at Kirkuk, controlled by the Iraq Petroleum Company representing American, British, and French interests, connects with the Mediterranean by pipe lines to Beirut and Haifa. In 1947, oil production totaled 4,700,000 metric tons, but a steady 1933 production decrease resulted from the government embargo on oil flowing to Haifa. In October the government, receiving several million pounds annually in revenues, reopened conversations with the Iraq Petroleum Company on amending its concession agreement.

Foreign Trade. Chief exports are oil, dates, livestock, grain, raw cotton and wool, and hides and skins. Manifold imports include iron and steel products, automobiles and other machinery, cement, chemicals, clothing, paper, coffee, sugar, and tea. In 1947, exports amounted to 25 million Iraqi dinars, primarily to the United Kingdom, India, Iran, the United States, Syria, Turkey, and Italy, and 1947 imports amounted to 40 million dinars, of which about 8 percent came from the United States. In the first four months of 1948, exports declined and imports increased. The export decline, due to the embargo on oil flowing to Haifa and to the crop failure, forced the reimposition of import controls, particularly on luxury goods, and an increase in import duties.

Finance. The regular 1948-1949 state budget provided for expenditure of 25 million dinars and revenue of 23.5 million dinars, a rise over the previous year because of defense and agriculture appropriations. The expected deficit, largely due to the loss of royalties because of the Haifa oil embargo, was to be made up by higher taxes. Currency in circulation in November totalled 34.5 million dinars. The year 1948 was the third to reveal a contraction in notes in circulation, a fall in bank deposits, and a decline in trading activity. The cost of living was 600 in November (1937 = 100), compared with a peak of 763 in April. At year's end the foreign exchange situation had improved over that of 1947; 10 percent of Iraq's investments abroad had been liquidated during the year. The 1948 exchange rate remained at \$1.030 to the Iraqi dinar.

Government. King Faisal II, grandson of King Faisal I (brother of Transjordan's King Abdullah) who took the throne in 1921, is represented during his minority by the Regent, Emir Abdul Ilah. The 1925 constitution provides for a Parliament consisting of a Senate appointed by the King for 8-year terms and a Chamber of Deputies elected by secret ballot every 4 years, one deputy to every 20,000 males over 21, totalling 138 in 1947. The Senate's size is limited to one-fourth that of the Chamber. The King appoints the Prime Minister and both select a Cabinet of 7 or more ministers.

Events. Relations with Great Britain. In January the

signing of the Anglo-Iraqi Treaty of Portsmouth, replacing the 1930 treaty: 1) gave Britain the right to send troops into Iraq in case of war or its imminence; 2) took away her right to occupy two Iraq airfields; and 3) provided for continued British training and equipping of the Iraq Army. On January 21, after 6,000 students staged a six-hour riot protesting the Treaty, the Regent announced the Treaty could not be ratified because it did not "realize Iraq's national aims."

On January 27 the Cabinet of Prime Minister Salih Jabir (who had signed the Treaty) resigned, after another day of rioting occasioned by his announcement he would fight for the Treaty's ratification. Mohammed al-Sadr, former President of the Iraqi Senate, became Prime Minister with a new Cabinet, members of which were shifted less than two months later. On March 23 the British Foreign Office announced the British advisory military mission would be withdrawn at Iraq's request. In June another cabinet was formed with Muzahim al-Pachachi as Prime Minister. The June 15 general election resulted in a Chamber over half of whose members were new and young.

Economic Development. Development plans include erecting an oil refinery and mechanizing agriculture by buying and operating a large number of tractors and combines under rental to the farmers by the government. Most important irrigation scheme is that of the Bekhme Dam to regulate the Tigris flow, irrigate, and generate electricity. Thirty-three million dinars are to be allocated for development over several years, starting with an appropriation from the 1948-49 budget.

Palestine Problem. The first demonstration against partition, in December, 1947, was marked by an attack on the United States Information Service for which the government apologized. In addition to the declaration of martial law necessitated by the Palestine war, the Chamber of Deputies made Zionist activity a crime punishable by death or life imprisonment. Meanwhile the Chief Rabbi, as spokesman for Jews long resident in Iraq, said Iraqi Jews would fight with the Arabs against Zionism. Iraq joined the other Arab countries in active fighting in Palestine and contributed substantially to the relief of Arab refugees.

—DOROTHEA SEELYE FRANCE

IRELAND, Northern. A part of the United Kingdom, consisting of the 6 counties and 2 parliamentary boroughs in northern Ireland (Ulster). Capital, Belfast.

Area and Population. The area is 5,499 square miles. The estimated population in 1945 was 1,324,000, of whom about one-third lived in Belfast, the only large city.

Education and Religion. Educational facilities include about 1,660 public elementary schools with approximately 187,000 pupils; 76 secondary schools, 69 technical schools and 60 others, with about 50,000 students, and the Queen's University at Belfast, with 2,839 students in 1946-47. The latest available figures show religious affiliation as follows: 33 percent Roman Catholic, 31 percent Presbyterian, 27 percent Episcopalian, and the remaining 9 percent in smaller denominations or unclassified.

Production. Agriculture, linen and shipbuilding are the three basic industries. Potatoes grown in 1947 were 1 million tons and oats 265,000 tons, both less than in 1946. Poultry 21,029,111; pigs 333,533; and cattle 931,470 in 1947; continued to increase.

The linen industry is the most important dollar-

earning enterprise in Northern Ireland. A reduction of flax acreage to 17,450 has increased dependence upon foreign supplies. The Belfast shipping yards, the largest in the world, launched 11 merchant vessels with a gross tonnage of 121,625 in 1947. On Apr. 1, 1948, 21 vessels totaling 201,700 gross tons were under construction.

Foreign Trade. Exports in 1947 were £153 million; imports £157.5 million, yielding a small trade deficit. Direct trade with the United States showed an export surplus of £815,000 in 1947. Nine-tenths of Ulster exports go to Great Britain and four-fifths of imports come from Britain. Food products, textiles, and ships are important exports; manufactured goods, raw materials, and coal are the chief imports. External trade was £232 per capita in 1947.

Transportation. Railway standard gauge mileage is 644 and inland waterway mileage 157. In 1946 the Northern Ireland Road Transport Board operated 680 omnibuses and 1,137 motor vehicles.

Finance. The budget statement of May, 1948, showed a surplus of £612,000. Estimated revenue and expenditure for 1948-49 are close to £59 million. Contribution to United Kingdom or imperial services was set at £21.5 million. Net savings in the financial year 1947-48 were almost £6 per head, as compared with just over £4 for Great Britain.

Government. Although Northern Ireland is an integral part of the United Kingdom and is represented by 13 members in the British House of Commons, the country exercises a degree of local autonomy through a Parliament of its own and a Cabinet responsible thereto. The Parliament consists of a Senate of 2 ex-officio, and 24 elected members and a House of Commons of 52 members, all elected. In 1948, as a result of the election of 1945, the Unionist Party was in power. Governor: Vice Admiral the Earl of Granville. Prime Minister, Sir Basil S. Brooke.

Events, 1948. Throughout the year Northern Ireland felt the repercussions of Eire's proposed repeal of the External Relations Act and severance of all connection with Britain. The Prime Minister, Sir Basil Brooke, took cognizance of the preliminary feelers as early as April 13, when he disclosed that his Government was considering sending some one to the United States to correct the "travesty of present-day conditions in Northern Ireland" being given in the United States, presumably by de Valera in his March visit.

At this stage Eire's desire, as publicly expressed, was merely for the annexation of Ulster—or, in the more diplomatic language ordinarily used in the argument, the "end of partition." By July Eire's plans for a separate republic were maturing, and again Sir Basil Brooke issued a statement in reply to recent speeches by members of the Eire Government. "Do they think our constitutional status is up for auction?" the Prime Minister asked, adding that "Ulster is not for sale."

The vigor of the interchange across the border increased in the late summer. On September 9 the Grand Orange Lodge of Ireland passed a resolution which included an "emphatic protest against the audacious and preposterous claim of Mr. Costello to have any control in any capacity over the affairs of Northern Ireland."

Prime Ministers Brooke and Attlee met at Chequers on November 20 at the request of Attlee, to discuss Eire's forthcoming departure from the Commonwealth. Reporting on the talk to the Northern Ireland Parliament on November 25, Prime Minister Brooke said that Attlee had given

the fullest assurances that the creation of a republic in southern Ireland would have no effect whatever on the constitutional position of Northern Ireland as an integral part of the United Kingdom. Although the British Government was to give Eire citizens full civil rights, control of Eire citizens in Northern Ireland would be continued through the Northern Ireland Safeguarding of Employment Act.

Northern Ireland made the necessary adjustments to secure reciprocity when the British national insurance and health services came into operation on July 5. The respective ministers of National Insurance arranged that the two schemes should operate as a single system and contributions paid in one country would entitle the contributor to benefit in the other country. British ministers who visited Northern Ireland in the latter half of the year included Prime Minister Attlee; Lord Jowitt, the Lord Chancellor; Harold Wilson, President of the Board of Trade; George Haas, Minister of Labor and National Service; and Lord Parkinham, Minister for Civil Aviation. Nearly all of the officials were concerned in part with economic affairs during their visits. ALZADA COMSTOCK

IRON AND STEEL. United States production of iron and steel in 1948 was at record breaking peacetime levels, but the demand for steel products by domestic industry was far greater than could be supplied by wartime and postwar expanded steel plants and available raw materials. Production was restricted by a year-long cycle of repairs to furnaces and other equipment that had been deferred too long in order to meet heavy wartime and postwar demands for steel. The coal mine strike in the spring caused the loss of an estimated 1,500,000 ingot tons.

Domestic production of steel ingots and castings totaled 88,509,083 net tons, less by hardly more than a million tons than peak wartime production in 1944 (1947 ingot production: 84,894,071 tons). Steelmaking furnaces were operated at an average rate of 93.9 percent of capacity, which was placed at 94,233,460 net tons on Jan. 1, 1948. An additional 1,800,000 tons of capacity was added during the year. Barring the possibility of major strikes occurring next year and assuming a continuation of heavy steel demand, industry leaders forecast an all time-high production rate in 1949 of about 92 million tons.

Domestic production of pig iron in 1948 was 60 million net tons, a peacetime record (1947 pig iron production: 58,507,169 tons).

Shipments of steel products to consumers, including alloy and stainless steels, reached 66 million net tons. (1947 shipments: 63,057,150 tons). The principal steel products shipped were: hot-rolled sheets, 11.8 percent of the total; plates, 10.6 percent; cold-rolled sheets, 10.4 percent; hot-rolled carbon steel bars, 9.4 percent; structural shapes, 6.5 percent. The diversion of tonnage from the less profitable products to those bringing a higher net return is a significant postwar trend. The heaviest steel plant expenditures in the postwar period have been for additional finishing facilities to permit mills to sell a larger proportion of finished steel products to customers. In sheet steel, for example, cold-rolled capacity has been heavily expanded at the expense of hot-rolled tonnage.

For many years the steel industry has sold its products on the multiple basing point pricing system. This method of pricing permits competition among steel producers, some of whom may be reaching into distant market areas. The origin of

this pricing system lies in the need of every steel producer to operate its plant facilities above the break-even rate of plant capacity in order to make a profit. By being willing to absorb freight charges to a distant market area additional tonnages of steel can be sold, at the expense of the sales volume of mills in that area.

The multiple basing point system is one in which a base price (which includes extra charges for gage, size, quantity, alloy, finish, etc.) is established by every major producer for each steel product at its producing point. Competitors may elect to compete within the normal market area of such mills by absorbing the freight costs from their nearest producing points to the remote basing point. Under this system of pricing it is also possible for steel producers in some areas to charge customers so-called phantom freight on certain steel products and yet remain competitive. This term describes freight charges billed the customer that have not actually been incurred by the producer.

A Supreme Court decision at the end of April outlawed the use of the multiple basing point pricing system by the cement industry. The Federal Trade Commission indicated that it was prepared to press similar actions against the steel industry and others using this system of pricing. Within three months practically all steel producers had changed to an L.C.B. mill pricing system.

Steel consumers were thrown into a state of confusion as to their costs, which became more dependent on the locations of their plants and those of their steel suppliers. Many gave serious consideration to the advantages of moving fabricating plants to centers of heavy steel production, such as Pittsburgh, to reduce freight costs. Considerable pressure was brought to bear on Congress by consumers to legalize the multiple basing point system, and a Senate subcommittee on trade practices conducted extended hearings. The sentiment of steel consumers at the hearings and in a survey conducted by The Iron Age was overwhelmingly in favor of the restoration of basing point pricing.

Prices of steel products were advanced during the year as the result of higher wages and other costs. The Iron Age weighted composite price for finished steel advanced from 3.195-41 cents per lb. at the end of 1947 to 3.756-28 cents per lb. at the end of 1948. This index does not, however, reflect increases made in extra charges. The Iron Age composite price of pig iron increased during the year to \$16.82 per gross ton, from a price of \$38.39. Prices of Lake Superior iron ores were advanced 65 cents a gross ton on April 1. The Iron Age composite price for heavy melting scrap reached a peak of \$43.16 a gross ton in July. Scrap prices weakened toward the end of the year and the composite closed at \$43.00, a net increase of \$3.00 during the year.

Demand for steel products was overwhelmingly beyond the record steel production rates. Gray market steel sales flourished at prices more than \$200 a ton above the mill price level. Such transactions, fed by imported steel products and disposals of unbalanced inventories, represented a very small proportion of total steel shipments. Conversion deals were common, particularly for the automobile industry. The steel consumer would have ingots produced for him, usually at a steel castings plant, to be converted into semi-finished form at a second plant. The final conversion into finished steel products was generally done at a third plant. Freight costs and conversion charges built up the cost of conversion steel to close to that of gray market steel. There was also a wave

of purchases of non-integrated steel plants by large steel consumers or groups of consumers in order to assure their source of supply.

Steel producers attempted to assure equitable distribution of their available tonnages to their customers. But such tonnages were cut down by a voluntary allocations program that earmarked specified tonnages of many steel products for approved consuming industries. The program was worked out jointly by the members of the steel industry in cooperation with the Office of Industry Cooperation of the Department of Commerce. Programs in effect at the end of the year required 476,422 tons of steel a month. Nearly 200,000 tons of plates per month are required, as well as heavy tonnages of structural shapes, hot-rolled bars, sheets and strip. Freight car construction and maintenance require 249,682 tons a month; the Armed Forces, 102,505 tons; tanker vessel construction, 40,380 tons; barges, 25,000 tons; tank and oil field machinery, 16,530 tons; Atomic Energy Commission, 16,414 tons; merchant vessels, 15,415 tons.

The many technical developments in the steel industry in 1948 were directed toward increased production rates, reduced operating costs, the improvement of quality, and new processing techniques. The possibility of future decentralization of the steel industry is promised by the first commercial use of the continuous casting of steel billets. This development is based on a technique by which the heat is cast directly into relatively small semi-finished sections, by-passing the ingot stage and making unnecessary the heavy expenditures for soaking pits, blooming mill, and ingot handling equipment.

The use of oxygen in steelmaking has grown rapidly in the last three years, but for some purposes it is still in the experimental stage. It has been used in conjunction with openhearth furnaces, electric furnaces, bessemer and sideblown converters, the foundry cupola, and most recently in the blast furnace.

The cold extrusion of steel has been developed for low and medium carbon grades and some low alloy grades. Significant cost reductions are possible with this technique as compared with conventional forging or machining methods.

In 1948, domestic steel producers were seriously concerned with the prospect of exhaustion of the high grade iron ore reserves of the Lake Superior region. Experts generally agree that the bulk of the open pit reserves of the Mesabi and other ranges will be used up by 1960. Construction of beneficiation plants has been started to handle the tremendous tonnages of the low grade taconite ores of the Lake Superior region. Producers are also studying the costs of opening up the large reserves of high grade ores in other parts of the Western Hemisphere. Bethlehem Steel Company will start shipping ore from Venezuela in 1949. The high grade ores of the Labrador-Quebec area are being developed jointly by Hollinger Consolidated Gold Mines, Ltd. and the M. A. Hanna Co. The Labrador-Quebec area and the rich reserves of Brazil in the Minas Geraes district require construction of railways through inaccessible country. The development of the St. Lawrence Seaway is considered essential by the industry to bring ore carriers close to the heart of the steelmaking centers. Iron ore costs will be increased considerably by the wide use of foreign ores and the need for beneficiating low grade domestic ores.

World steel ingot production reached a peacetime record in 1948 estimated at 168,812,000 net

tons (1947: 149,506,000 tons). World pig iron production is estimated at 120,650,000 net tons (1947: 106,288,000 tons). Practically all steel producing nations are working toward higher steel capacities. If presently contemplated programs are carried through, it is estimated that the steel ingot capacity of the world should be 200 million tons by 1952.

In the United Kingdom nationalization of the steel industry in 1947 seems assured. Handicapped by shortages of coal and scrap, Britain produced approximately 16,500,000 net tons of ingots (1947: 14,246,000 net tons), larger production than any previous year. Present objectives call for production of 18 million tons by 1950. Expanded United Kingdom capacity is designed to serve the export steel market.

Steel production of the U.S.S.R. increased appreciably in 1948 due to restoration of steel plants destroyed by the war, construction of new facilities, better handling of raw materials, and higher labor productivity. Russian steel ingot production is estimated at 22,220,000 net tons (1947: 17,050,000 net tons), higher production than any previous year.

German steel production has been reduced to a shadow of its potential. The British zone which includes the Ruhr contains 75 percent of total capacity; the French zone which includes the Saar contains 12 percent; the Russian zone, 10 percent; and the U.S. zone, 3 percent. Russia has dismantled and shipped home practically all capacity in its zone. The United Kingdom plans to dismantle more than 9 million tons capacity, leaving a capacity in its zone of 10.3 million tons. The United States opposes further dismantling of German industrial capacity in the zones controlled by Britain and France, as well as its own. German production in 1948 was approximately 7,350,000 net tons, about 6 million tons from the British zone, 1.2 million tons from the French zone, and 300,000 tons from the U.S. zone. German steel production from these three zones in 1947 was 4,739,000 net tons.

French steel production has been handicapped by shortages of raw materials, strikes, unstable currency, and a poorly defined expansion and modernization program. Nevertheless steel production in France increased to approximately 7,368,000 net tons (1947: 6,338,000 net tons).

—JOHN ANTHONY

ISLAM. Islamdom embraces those areas of the earth where Islam is the religious and social way of life of the majority, or a large minority, of the inhabitants. During 1948 these Islamic peoples experienced turmoil, upheaval, repression, and some successes in international relationships.

In Morocco agitators demanded independence from France, which promised reforms, and from Spain, which responded with suppression. Algerians received greater legislative representation. In Tunisia discord continued. France still hoped to assimilate Northern Africa to make a France Major, but found the forcing process unsuccessful.

The future of Libya, ruled formerly by Italy, at the end of 1948 still awaited decision by the United Nations.

Egypt is not Islamdom's greatest nation in size, power or population. Nevertheless Egypt accepted leadership in the seven-nation Arab League to promote common interests.

The other League nations are Syria, Iraq, Transjordan, Saudi Arabia, Yemen, and Lebanon, the only one with a non-Muslim majority. A political change occurred when the Imam Yahya, Yemen's

king and religious leader for 43 years, was assassinated on February 17 with three of his sons. Another son, Sayf al Islam Ahmad, now rules the only Muslim state where one person exercises religious and temporal power.

Since 1923 Turkey has been a laic, or secular republic. Its Turkish citizens remained Muslim. Only in Istanbul are Armenians and Greeks numerous. The separation of government and religion is official, but the state maintains control of all religious activities. Turkey still belongs to Islamdom, just as France is within Christendom.

Turkey and Iran experienced political pressure from Russia. They and Afghanistan are receiving economic and other aid from the United States.

Pakistan is an outstanding Islamic success. Its amazing birth in 1947 as one nation in two sections 1,000 miles apart was accompanied by calamitous uprooting, expulsion, and influx of Sikhs, Hindus and Muslims, threatening ruin to the infant state.

In the Netherlands East Indies the Muslim nationalist movement was too limited in number and area for lasting success. Most Indonesians placed more hope in Holland than in an independent republic. See ARAB LEAGUE AFFAIRS; INDIA, UNION OF; ISRAEL; PAKISTAN; PALESTINE.

—EDWIN E. CALVERLEY

ISRAEL. The Zionist state of Israel (see ARAB LEAGUE AFFAIRS, PALESTINE) was proclaimed in Palestine immediately following the end of the British mandate, 6 months after the United Nations partition decision and 31 years after Great Britain's Balfour Declaration favoring a "national home for the Jewish people . . . it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine, or the rights and political status enjoyed by Jews in any other country." The Zionists held that since any UN General Assembly vote was binding, the Israeli state was properly authorized.

A 13-man Provisional Council was set up with David Ben Gurion as Prime Minister and Defense Minister and Moshe Shertok as Minister of Foreign Affairs. Chaim Weizmann was elected the Council's President. Hagana became the national army and the first thousand of a series of immigrants were admitted on Israeli visas. The new state was immediately recognized by the United States and shortly thereafter by the Soviet Union. UN membership was applied for and Major Aubrey Eban was appointed Israeli representative to the UN. By November Bulgaria was the eighteenth country to recognize Israel.

While furious battles raged and involved UN negotiations proceeded, the Council organized the new state. The Finance Minister stated that Israel's revenue as of June 21 was more than £900,000 and that £3,500,000 of the £5,000,000 national loan was subscribed. A new currency was issued substituting the Israeli pound for the Palestinian pound (equivalent to sterling). In September an income tax bill was adopted, a Supreme Court established, and the port of Haifa handed to Israel by the British.

The government ruled in October that its proposed citizenship and election laws would apply to all permanently domiciled in any Palestine territory under Israeli Army control. Tariff rates of 15 to 45 percent on manufactured goods were levied, but none on capital goods, the demand for industrial equipment being unlimited. In the face of the spiraling cost of living (with 1939 as 100 it had risen from 274 in October, 1947, to 358 in Septem-

ber, 1948) the Economic Director announced that the ration might be extended from food and gas to other necessities.

The new constitution, released on December 11, established a sovereign, independent, democratic republic with a Chamber of Deputies elected by universal suffrage for 4 year terms. The Chamber elected the President for a 5 year term and he appointed the Executive Council consisting of the Prime Minister, leaders of Department of State, and the Ministers. Toward the year's end the many political parties were narrowed to about 12 in preparation for the first general election in January, 1949.

In December Israel's application for UN membership was considered, with American and Russian support assured. U.S. Security Council Representative Philip Jessup asserted that Israel met the four qualifications of a state: 1) There must be a people; 2) there must be a territory; 3) there must be a government; and 4) there must be a capacity to enter into relations with other states.

Throughout the year Israel faced an internal security problem vis a vis extremist groups unwilling to compromise. On May 15, both the Irgun Zvai Leumi and the Stern Gang declared their allegiance and theoretically became part of the national army. However, the first incident exploded over Irgun Zvai Leumi's attempt to land men and ammunition in violation of the UN truce to which the Israeli government had agreed. Angered by government arrests, Irgun leader Menahem Beigin ordered his men not to take the Israeli oath of allegiance. Nevertheless, the Council received a 24-7 vote of confidence on the government's decisive action.

Then came the assassination of UN Mediator Count Bernadotte by unknown terrorists. The government ordered a full search, arresting 200 suspects, and the Council voted unanimously for more severe penalties for membership in outlawed organizations. In reply to a government ultimatum Irgun Zvai Leumi officially disbanded, the Stern Gang announced its dissolution as a separate unit, and its newspaper was closed. Yet in October copies of a Stern Gang paper appeared assuming responsibility for Bernadotte's death and threatening "all other foreigners" who impeded Israelis. In December the trial of the Gang's leader was started.

—DOROTHEA SEELYE FRANK

ITALIAN LITERATURE. The Italian literary season of 1948 fell into a more normal, if limited, productivity, due partly to the continued lack of printing facilities, and to the scarcity of paper and materials. Beset by these difficulties, Italian publishers smarted under their helplessness to bring the Italian press back to the seniorial and esthetic place it formerly occupied on the international horizon.

Financial difficulties continued to make inroads on the quality of format, illustration, and typesetting, etc. And, to some extent, these difficulties, greatly limited the quantity of books by new authors. This curtailment of production was perhaps for the best, since in retrospect, the previous season (1947) was not one desirable of continuation; with its tendencies toward decadence, amorality, and repulsive realism.

Hence, if the 1948 season was not punctuated with great creations, it was marked by contrast, with an obvious groping for more normal and spiritual attitudes toward life in an Italy still beset by so much misery and abject poverty. Literature reflected perforce, here and there, a benign resigna-

tion during a trying and indecisive moment in the destiny of the Italian people. Once again, literary creation occupied a minor premise on the Italian horizon, yielding a place of major importance to history and politics. Let it be recalled that the victory of the Christian Democrats over the Social Communists and the jostling about of national politics and aspirations relegated all other cultural activities into a remote and humble background.

Drama. The Italian theater lagged far behind the other arts this past season. It was hindered by seemingly unsurmountable obstacles and difficulties, and of course, by the perennial problem of costs of production and the poverty of the stock companies. More than in any other art, the post-war years in the theater have been significant for psychological shifting and readjustments.

Small wonder then, that there should be such paucity of native creations and native productions. Under such conditions chances for successfully producing any plays in Italy were so slim that directors rather took to producing well-known foreign plays, than to gamble with the limited funds on hand. Thus if there was a preponderance of foreign plays, Italy did not show any particular preference for French plays as against English plays or American plays. As much enthusiasm was shown for Sartre as for Saroyan or other well-known names on the international horizon. However, if this can be of any consolation to our Italian dramatists, one can point out that there has always existed a theater crisis in Italy and for that matter all over the world.

Even during the heyday that witnessed so many extraordinary plays by Pirandello and D'Annunzio the familiar cry was "crisis" in the theater. One must bear in mind that Italy was left a defeated nation, bereft of resources and a will of its own. Hence, when we speak of psychological readjustment, we must understand that it is synonymous with gathering strength, fortitude, perseverance for some sort of renaissance in which the Italian theater will, as in the other arts, emerge fruitful, original, and vital. Pirandello made certain philosophic innovations in the theater. The futuristic movement started in Italy as did the "Mask and the Face" movement, and once again, with so splendid a heritage, young dramatists need not despair but should point doggedly toward their work and the future.

Periodical Literature. Noteworthy was the continuation of the magazine literature among which *Martedì* (Tuesday), a new weekly was launched, by Bompiani, Milan editor. The weekly carries instalments of great books of the world; bringing reading within the possibility of everyone, at a nominal cost. The very reliable and efficient "ICS" (*Italia Che Scrive*) launched some 31 years ago by the enterprising editor, Formigini, continued its regular issues with sharp critical evaluations of almost everything published in Italy. *La Rassegna d'Italia* (Gentile, Milan) of which the notable critic, Francesco Flora is managing editor, went into its third year of publication. It is a scholarly and serious literary review with facsimiles of unpublished letters and source material. It carries splendid reproductions of contemporary artists, and in general treats of the varied arts and culture.

It is also of interest to note the continuation of *Italy's Life*, a bi-monthly, published in Milan. This magazine is printed in English with occasional Italian articles and notes. As a feature, it presents beautiful reproduction of art masterpieces and unusual photographic plates of the Italian panorama. One noted less typographical errors in recent is-

sues, but it is to be hoped that the quality of English used will improve as well. Aldo Garzanti, the energetic publisher of Milan, launched *La Piccola Illustrazione Italiana* in a small format, fashioned after the famous *Illustrazione Italiana*. Garzanti's new venture appears monthly. In miniature, it presents all the features of the older and larger review from which it takes its name.

Fiction. The literary prize "Ines Fila," was awarded to Marino Moretti for his *Il Fiocco Verde* (Mondadori, Milan). The novel depicts the life of an ecclesiastic and his household, composed chiefly of women. Narrated with restraint and reflectiveness, the novel is in contrast with some of the realistic prose which permeated Italian writing of a year ago.

Giuseppe Berto whose *The Sky Is Red* was translated by New Directions in America, received the "Firenze" prize for his new novel, *Le opere di Dio* (Macchia, Rome). It depicts the misery of a peasant family of five caught between the struggle of two armies. Again, Berto showed unusual talent in style and narrative, and the tragic end that befalls the family is poignantly and masterfully handled.

Carlo Caccioli contributed another novel of serious and spiritual values, *La piccola valle di Dio* (Vallecchi, Florence). A simple and beautiful narration of life in this world of ours, it offers a formula for solace and ultimate salvation. Enzo Amodio, a newcomer in the field of literature wrote *L'Abisso* (Casella, Naples). It tells of the adventures of a young man, of war, and of impending ruin. The novel did not create a stir.

Guido Seborga's *L'Uomo di camporosso* (Mondadori, Milan) is written in a direct and incisive style. Here again the story evolves about a man in rebellion against his surroundings. The veteran writer, Aldo Palazzeschi, contributed something of a counterpart to his famous novel, *Le Scritture Materassi* (*The Sisters Materassi*), in *I fratelli Cucchi* (Vallecchi, Florence). A regional novel was contributed by Lucifero Falcone, in *Tonna* (Palombi, Rome). Tonna, a calabrese mother clings to the only indestructible reason for being alive; the constant reality that a mother does bear children, and that this relationship of mother and children has an "eternal quality and strength."

Riccardo Bacchelli, a writer of long standing, also contributed a novel on the spiritual plane, *Lo sguardo di Gesù* (Garzanti, Milan). It draws its inspiration from the Biblical episodes dealing with Christ's miracles on those possessed of the devil. Two novels on different motifs were contributed by Alfredo Orecchio and Vittorio G. Rossi. Orecchio's *Gli sposi sensibili* (Reanda, Rome) constituted the first volume of a trilogy. It deals with the atmosphere around the *petite bourgeoisie* with its attendant "misery," "morbidity," and "lack of ethics." Rossi's *Preludio alla notte* (Bompiani, Milan) makes fare of the story and adventure formula: two young people meet on a steamer and in three short days are deeply in love. While speaking of adventure novels, one might mention Ugo Betti's *La Piera Alta* (Garzanti, Milan), an addition to the numerous books on mountain climbing, with the usual dosage of danger and excitement. The book was criticized as being overly stylistic. Libero Bigiaretti gained the "Fuigi Prize" for his novel, *Un discorso d'amore* (Garzanti, Milan). The novel is written in the form of a long letter to a former "love," and shows some influence of the "existentialism" theme.

In the short story field, the venerable name of Vincenzo Cardarelli reappeared in his volume of "reminiscences," couched in poetic vein, *Villa Ta-*

rantola (Edizione della Meridiana, Rome). The book was awarded the "Strega Prize." Nine short stories in "bold" and "violent" moods made up Maria Luisa Astoldi's *La torre del diavolo* (De Fonseca, Rome). Another collection of short stories, dipping frequently into the Neapolitan vernacular, and with zest and color, was Domenico Rea's *Spaccanapoli* (Mondadori, Milan). This young author writes with effortless simplicity and creates effortless drama at every turn of the page; he will no doubt be heard from in the future. Ugo Betti had a busy season; in addition to his novel, discussed above, he found time to assemble 19 short stories, *Una strana serata* (Carzanti, Milan); in a lively idiom and with vivid characterizations.

Poetry and Varia. The poetry prize "S. Babila" was awarded to Giuseppe Ungaretti for his *Il Dolore* (Mondadori, Milan) which constitutes the fourth volume in his series "Vita di un uomo." Vincenzo Cardarelli's *Poesie* appeared in the collection "Poeti dello Specchio" (Mondadori, Milan). G. Cimino's volume of poems, *Le cose* (Castoldi, Milan), is divided into three groups: "poems on times gone by," "poems on modern times," and "philosophic poems." Umberto Fracacreta contributed poems with echoes of Pascoli and D'Annunzio, *Ultimi canti* (Laterza, Bari).

One of the best books of poetry, singled out in the past season, was P. David Turoldi's *Io non ho mani* (Bompiani, Milan). The poems suggest a mystic and sincere exaltation. Essays on poetry were contributed by Vincenzo Cardarelli, *Solitario in Arcadia* (Mondadori, Milan). These were observations on style, on color, and on the author himself, as man and poet. Giovanni Scalvini published his critical studies: *Foscolo, Manzoni, Goethe* (Einaudi, Turin). Luigi Pirandello's plays continued to be reprinted by the "Collezione Omnibus" and "Biblioteca Moderna," both editions put out by the famous house of Mondadori of Milan. Lionello Venturi, the internationally famous art critic, prepared a handsome volume on contemporary painting, *Pittura Contemporanea* (Hoepli, Milan). In conclusion, thanks are due to the monthly, *ICIS*, for material consulted in the preparation of the foregoing bibliographical notes.

—O. A. BONTENPO

ITALIAN SOMALILAND (Somalia). A territory along the east coast of Africa from the Gulf of Aden to Kenya. Formerly an Italian colony, it was conquered by Allied military forces and has been under British military administration since February, 1941. Area: 194,000 square miles. Population: 1,021,572. The majority of the people are Somalis of the Sunni sect of Islam. Capital: Mogadishu, 55,000 inhabitants. Agriculture and cattle-raising are the chief occupations of the people.

ITALY. A republic of southern Europe. Area: 116,285 square miles. By the treaty of peace of Feb. 10, 1947, Italy ceded several small border areas to France, larger areas to Yugoslavia, and Rhodes and other Dodecanese Islands to Greece. The region of Trieste became a "Free Territory." Sovereignty over the African colonies was renounced. Population (estimated in mid-1947): 45,943,000.

Religion and Education. Catholic religious teaching is given in elementary and intermediate schools. In 1931, 99.6 percent of Italians were Catholics. According to the treaty of Feb. 11, 1929, between the Holy See and Italy, the Catholic Apostolic Roman Religion is the only religion of the State. Education is free and compulsory from the ages of 6 to 14. In 1945-46, there were 45,851 elementary

schools (public and private) with 5,226,249 pupils. There were 1,138 non-technical government secondary schools with 383,539 pupils. There were 27 universities and higher institutes.

Production and Industry. Food production in 1946-47 was 86 percent of the 1933-38 average. Industrial production in 1947 was 65 percent of the 1938 level. By the autumn of 1948, it had not increased appreciably and had declined in some lines. Official estimates indicated that the Marshall Plan goal of a self-supporting Italian economy by 1952 would require an increase of industrial production to 140 percent of the 1938 level. This objective appeared unattainable without increased and protracted American subsidies. Livestock in 1947 was estimated at 7,345,000 cattle, 3,100,000 pigs, 9,735,000 sheep and goats, 560,000 horses, 500,000 donkeys, 240,000 mules. The 1947 production, in thousands of metric tons: coal, 1,356; lignite, 441.6; iron ore, 225.6; pig iron and ferro-alloys, 384; steel ingots and castings, 1,704; lead, 17.52; zinc, 24.12. Wine production for 1946-47 was estimated at 31,857,680 hectolitres.

Foreign Trade. During 1948 a customs union with France was projected, with import duties to be abolished by Jan. 1, 1950. Owing to the progressive depreciation of the value of the lire, along with frequent fluctuations, figures for imports and exports are relatively meaningless. It was estimated, however, by the UN Economic Commission for Europe that Italian exports for the year July, 1946, to June, 1947, had a value in dollars of 1938 purchasing power of \$334 million, while imports, similarly estimated for the same period, totaled \$650 million. From available data it does not appear that these quantities and proportions were significantly changed during 1948.

Finance. Up to June 30, 1948, total American grants and loans to Italy since liberation amounted to \$2,035 million. The public debt by Nov. 30, 1947, was 1,369,872 million lire, including a consolidated debt of 52,947 million lire and a floating debt of 881,235 million lire. In December, 1947, there were 788.1 million lire in circulation. The index number of the cost of living in August, 1948, was for all items 4,792; for food, 6,004 (1938 = 100). Price levels in the spring of 1948 were about 15 percent lower than in October, 1947, thanks to the checking of the inflationary spiral through credit restrictions and anti-inflationary fiscal policies.

Communications. In June, 1947, there were 23,222 kilometers of railways, including 15,764 kilometers of state railways, of which 4,692 had been electrified. The monthly average of freight tons carried on the railroads was 2.94 million in 1947 or 81 percent of the prewar level. Passenger travel was estimated at 194 percent of the prewar level. The telephone service in 1947 had 642,555 subscribers.

Government. Italy is a parliamentary republic with a President, a Premier, a Cabinet, and a bicameral legislature. See *Events* below for a discussion of the new Constitution and of political developments during 1948.

Events, 1948. The Italian Republic, like many another great and ancient state, became a football in the game of power played by the giants of East and West. Each contestant offered bribes and threats to win Italian favor. But this practice, far from enabling the Government at Rome to play an independent role of honor and dignity in world affairs, merely gave to Italian politics many of the characteristics of a puppet show, with the strings in the hands of Washington and Moscow. America's victory, promoted by ECA funds and regis-

tered in the election of April 18, was impressive but not definitive. One Italian out of three continued to adhere to Marxism of the Muscovite brand. This perverse addiction to subversion was largely attributable to mass misery, due in turn to defeat, devastation, inflation, chronic unemployment, painfully slow economic recovery, and the continued ascendancy of the industrial, aristocratic, and ecclesiastical élite over an insecure middle class and an impoverished proletariat and peasantry. American aid alleviated the worst symptoms of economic and social malaise. But those who dispensed it could not or would not antagonize their conservative Italian sympathizers who, with few exceptions, supported feudal agriculture in the south, industrial exploitation in the north, and political clericalism throughout the land. The Soviet-oriented agitators of social revolution therefore continued to find customers for their wares—to an extent which continued to jeopardize political stability and economic rehabilitation.

New Constitution. On New Year's Day of 1948, the 1848 *Statuto* of Piedmont-Sardinia—which had hitherto served as the basic law of the Kingdom, despite the distortions of Fascism and the confusions of liberation—was officially superseded by the document hammered out in the Assembly during 1946–47 in the course of 300 sittings, marked by 1,090 speeches and 1,644 amendments, of which 289 were approved. The new charter consisted of 139 articles, plus 17 “temporary” articles, including one denying civil rights to 200,000 Fascists. In its final form, notable for several major concessions by the Communists to Christian Democratic clericalism, it commanded the approval of all major parties. On Dec. 22, 1947, the Deputies endorsed the text by a vote of 453 to 62, with only a few Qualunquists, Monarchists, and ultra-Nationalists in opposition.

Ex-King Victor Emmanuel III died in Alexandria on Dec. 28, 1947, aged 78. His son, Humbert, remained in exile, although willing, as he put it, to return to the throne if summoned to do so by “the people.” No such popular desire was manifested during 1948, nor did Humbert and his Monarchist supporters find the times opportune for any organized efforts looking toward a royalist restoration.

The new Constitution reflected the many compromises which entered into its drafting. Communists abandoned a Soviet-style version of the bill of rights. Christian Democrats retreated from their original concepts of regionalism and corporativism. Marriage is not declared “indissoluble” (as in the initial draft), but children born out of wedlock are denied a legal status equal to those of legitimate offspring. Catholicism remains a State-supported religion with the reaffirmation of the Lateran Pact of 1929. Workers have no right to participate in plant management, but only a right to collaborate, subject to interests of production. Their right to strike is not absolute, but is subject to statutory limitations. The great latifundia are not abolished, but are to be “reformed.”

The polity sought to be established by the Constitution may be described as a unitary, parliamentary republic, based more on French and British practices than on American or Soviet models. The 19 “regions” of the realm are granted certain local powers, but not on such terms as to give the system a federal character. A Constitutional Court of 15 judges, chosen for 12-year terms, one-third each by the higher courts, parliament, and the President, may, as in the United States, pass on the constitutionality of legislation (Art.

135 and Act of Jan. 31, 1948). Parliament consists of two equal houses: a Chamber of Deputies, elected for a five-year term by universal and direct suffrage, with a system of proportional representation, on the part of all citizens over 21, in single member constituencies (Art. 56); and a Senate, also popularly elected but only by citizens over 25, for a six-year term, with each “region” given six Senators, and by means of a complex system of single member constituencies for candidates winning 65 percent of the votes, combined with a regional pooling of ballots for others on the principle of proportional representation.

The President is elected for a seven-year term by secret ballot by a two-thirds majority (or by a simple majority after the third ballot) of the Assembly, consisting of the two chambers meeting jointly. He may propose legislation to parliament and may veto laws within thirty days, although the Chambers may override his veto by a simple majority. He may dissolve either or both houses, but not during the last six months of his term (Art. 88). The parliamentary principle of executive responsibility to the legislature is preserved in Art. 89, under which all Presidential acts must be countersigned by the Ministers. The Premier (“President of the Council of Ministers”) is named by the President, but his Cabinet must be approved by a majority of both Chambers—with lack of confidence by either house requiring resignation. The possible difficulties to which these arrangements may lead are not likely to arise during the next five years, because of the present composition of parliament (see below).

Right vs. Left. General agreement on the provisions of the Constitution had no counterpart with respect to the immediate issues of the day. The schism between the Right parties, led by Premier Alcide de Gasperi's Christian Democrats, and the Left opposition, consisting of Palmiro Togliatti's Communists and Pietro Nenni's Left Socialists, was widened by the reorganization of the Cabinet on Dec. 15, 1947, to include the Republicans and Right Socialists (see *YEAR BOOK, Events of 1947*, p. 255).

Leftist resentment over the trend of events was enhanced by the failure or suppression of sundry strikes and demonstrations at the turn of the year and by President Truman's declaration (December 13) on the occasion of the withdrawal of the last U.S. troops, that in case the “freedom and independence of Italy . . . are threatened directly or indirectly, the U.S. . . . will be obliged to consider what measures would be appropriate for the maintenance of peace and security.” On December 18, in a disorderly session of the Chamber, Togliatti condemned the Republican leader, Pacciardi, for serving a Government “that takes its orders from the U.S.” He likewise denounced the Marshall Plan and accused Ambassador James Clement Dunn of “organizing industrialists against workers” and seeking to found an anti-Communist front. De Gasperi and Foreign Minister Carlo Sforza were upheld by the Deputies, 303 to 118, on December 19. On January 3, 1948, they signed with Dunn the Marshall Plan interim aid agreement, with a general American-Italian treaty of friendship, commerce, and navigation signed on February 1.

These developments set the pattern of Italy's domestic and foreign politics for the balance of the year. Early in February, Washington and Rome rejected Soviet protests over the presence of U.S. warships in Italian ports and American use of the Mellaha air field in Libya. A Cabinet decree of February 5, aimed at Communist partisans, out-

lawed all private organizations of a military character. In opening his political campaign in mid-February for the national elections scheduled for April 18, De Gasperi warned that a Communist victory would mean the end of American aid. Pope Pius joined the fray on February 22 by publicly describing the issue as "Catholicism vs. Communist atheism." "Catholic Action" and the Roman hierarchy were mobilized against the "People's Democratic Front," consisting of the Communists and Left Socialists. On March 5, in the first of a series of speeches, Ambassador Dunn besought Italians to ignore "those propagandists of totalitarianism who are seeking to turn you against us and us against you."

The ensuing campaign was marked by Soviet support of the Left bloc and by vigorous efforts on the part of the Vatican, Italian industrialists and aristocrats, the U.S. Embassy, the State Department, and various Italian American groups to warn the electorate against the Red Menace. On April 3, Washington, London, and Paris called on the UN Security Council to reconsider the application of Italy and Transjordan for membership, both having been vetoed by the U.S.S.R. On April 10, Gromyko vetoed the Italian application once more, meanwhile denouncing the U.S.A. for meddling in Italian affairs and using Italy as a "pawn." At the same time Washington proposed that the peace treaty be revised to restore Trieste to Italy. Togliatti's supporters championed disarmament, neutrality, and opposition to "American imperialism." Despite the great tension built up in Italy and elsewhere by these maneuvers of the Super-Powers, the campaign proceeded with a minimum of disorders.

The Election of April 18. The springtime balloting in the first election under the new Constitution did not record any overwhelming popular repudiation of the Left opposition. The Communists and Nenni Socialists nonetheless suffered a sharp defeat by virtue of a heavy outpouring of hitherto indifferent voters to give De Gasperi's Christian Democrats a large popular plurality and a parliamentary majority. The results in Chamber and Senate were substantially identical. The Christian Democrats won 48 percent of the popular votes (about 9,250,000), 53.5 percent of the Chamber seats, and 54 percent of the Senate seats. Right Socialists gained 7 percent of the popular votes, the "National Bloc" 6.6 percent, and seven minor parties, together, 5.4 percent. The "Popular Front" won 5,900,000 votes or 30.5 percent of the total. For the first time in recent Italian politics, one party had a legislative majority. But Left strength was still impressive the more so in view of intensive and expensive efforts to insure a Right victory. Of the 574 seats in the Chamber, the Communists won 142, the Nenni Socialists 36, and other Leftists 4. The distribution of seats in the Senate and on the Right was as follows: Christian Socialists 1, Peasant Party 1, South Tyrol Party 3, Republicans 9, Monarchists 18, National Bloc 18, Saragat Socialists 33, and Christian Democrats 307.

The new parliament met on May 8. Giovanni Gronchi was elected President of the Chamber, and Ivanoe Bonomi President of the Senate. In the balloting to choose a successor to President Enrico de Nicola, Carlo Sforza, bitterly denounced by the Left as "pro-American," withdrew after the Saragat Socialists decided to oppose him. On May 11, on the fourth ballot, 74-year-old Senator Luigi Einaudi, Christian Democratic Vice-Premier and Minister of the Budget, was named President of the Republic by 518 votes against 320 for Vittorio

Orlando. In August parliament voted to the President an annual salary of \$21,000, an expense account of \$300,000, a 1,000 room palace, and a 10,000 acre hunting estate. The new Cabinet, announced May 23, was constituted as follows:

Premier and Interim Minister of Colonies—Dr. de Gasperi, Christian Democrat.

Vice Premiers—Giuseppe Saragat, Right-Wing Socialist; Attilio Piccioni, Christian Democrat, and Giovanni Porzio, Independent.

Minister Without Portfolio and Vice President of the Interministerial Reconstruction Committee and of the Marshall Plan Committee—Roberto Tremelloni, Right-Wing Socialist.

Minister Without Portfolio and member of the Marshall Plan Committee—Alberto Giovannini, Liberal.

Foreign Affairs—Count Carlo Sforza, Republican.

Interior—Mario Scelba, Christian Democrat.

Justice—Giuseppe Grassi, Liberal.

Finance—Ezio Vanoni, Christian Democrat.

Treasury and Interim Minister of Budget—Giuseppe Pella, Christian Democrat.

Defense—Randolfo Pacciardi, Republican.

Public Instruction—Guido Gonella, Christian Democrat.

Public Works—Umberto Tupini, Christian Democrat.

Agriculture—Antonio Signi, Christian Democrat.

Transport—Guido Corbellini, Christian Democrat.

Posts and Telecommunications—Angelo Raffaele Jervolini, Christian Democrat.

Industry and Commerce—Ivan Matteo Lombardo, Right-Wing Socialist.

Labor and Social Security—Aminatore Fanfani, Christian Democrat.

Foreign Trade—Cesare Melzagora, Independent.

Merchant Navy—Giuseppe Saragat.

The tide of neo-Fascism, which appeared to be rising during 1947, receded somewhat in 1948 with the absorption of many of its adherents into the Christian Democratic camp. But at the opening in mid-October of the trial of Marshal Rodolfo Graziani on charges of treason and collaborationism, he was hailed as a hero by pro-Fascist rioters in Rome.

The Shooting of Togliatti. Continued mass unemployment, fluctuating around 2,500,000 throughout the year, along with depressed business activity and bitter want for millions of peasants and workers, furnished grist for the mill of the "Popular Front" parties. Communists and Left Socialists continued to challenge the Cabinet in parliament, to denounce America and the Marshall Plan, to sing the praises of Moscow, and to provoke sporadic strikes in various industries. In late June, as the Chambers approved new legislation against illegal possession of weapons, Togliatti attended the international Communist Conference in Warsaw.

On July 14, as parliament voted approval of a new Marshall Plan aid pact, Togliatti was approached outside the Chamber by a young man, Domenico Pallante, who fired four shots at the Communist leader. The would-be assassin confessed to having long planned to kill Togliatti, on the ground that it was intolerable "that an Italian should participate in meetings of the Cominform." His victim was gravely wounded, but recovered after some weeks of hospitalization. The attempted murder precipitated widespread demonstrations and disorders throughout the country, including a brief general strike called by the Communist-controlled Confederation of Labor. As police battled rioters, rumors spread of an impending Communist coup and of the probable outlawry of the

Communist party. Neither materialized. In response to Soviet criticism of lack of vigilance, the Communists undertook to purge their members, totaling 2,200,000, of "opportunists" and to strengthen their ranks for new struggles.

Despite the secession from the Confederation of Labor of certain anti-Communist elements and occasional doubts among the Left Socialists regarding the wisdom of their course, Togliatti's Moscow-oriented followers were not appreciably weakened by the close of the year. Secretary of State Marshall's brief visit to Rome on October 18, on his way back to Paris from Athens, coincided with new Leftist denunciations of the U.S.A. and with a spreading rash of strikes in the public services.

The Question of the Colonies. Italian hopes, voiced with variations by spokesmen of all parties, for the restoration of the former African colonies to the new Republic, were frustrated by political and strategic calculations in other capitals and by the imperatives of the "cold war." The deputies of the Big Four Foreign Ministers, meeting in London to dispose of the problem, reached a deadlock in June. France and the U.S.S.R. favored an Italian trusteeship over all the colonies. Britain sought to retain control of Cyrenaica. The U.S.A. had no clear policy. On August 17 New York's Gov. Thomas E. Dewey told a group of Italian-American leaders in Albany that he favored an Italian trusteeship for all the colonies. He was rebuked by President Truman for "playing politics" with the bipartisan foreign policy.

In the absence of an accord among the Big Four, the colonial issue was scheduled under the treaty to go to the UN General Assembly on September 15. Early in September Moscow proposed a meeting of the Council of Foreign Ministers in a final effort to achieve agreement. Marshall and Bevin declined to attend, but sent agents to confer in Paris with Vishinsky and M. Schuman. At this point the State Department openly endorsed the British position—i.e., that Italian Somaliland should become an Italian trusteeship, that the disposition of Tripolitania and Eritrea should be deferred for a year, and that Cyrenaica (site of the Tobruk naval base and of the Mellaha air base) should become a British trust territory. Vishinsky then proposed, as Byrnes had originally done in 1945, that all the colonies be placed under the UN Trusteeship Council, with Soviet and Italian participation. When Bevin and Marshall rejected any such arrangement, the issue went to the UN, where, however, the General Assembly voted on Dec. 8 to postpone the whole question until its next session on Apr. 1, 1949.

The Rome Cabinet welcomed the delay on the assumption that time was working in Italy's favor. But almost all Italians were chagrined and embittered at the course of Anglo-American policy.

Western European Union? In Italy, as in Germany and Japan, many ardent nationalists sought to capitalize on the American-Soviet schism and to take advantage of the assumed willingness of the U.S.A. to subsidize, rehabilitate, and perhaps even rearm its erstwhile foes in the name of defense against Communism. Possible adherence to the Brussels Pact, membership in an enlarged Western European Federation, and adherence to the Atlantic defense treaty projected for 1949 were all bruited about in Rome. In the case of Italy, however, no such program could be carried to completion without a revision of the disarmament clauses of the peace treaty. Washington was not yet prepared to propose such a step, despite the cordial reception accorded early in December to

Gen. Efsio Marras, Chief of the Italian General Staff, who came to plead for modern weapons for the Italian armed forces.

Sforza charged on December 3 that Moscow was permitting Hungary, Bulgaria, and Rumania to arm beyond treaty limits. He implied that Italy should be permitted to do likewise. But these issues remained to be resolved in 1949.

Meanwhile the Italian regime, like its counterpart in France, was regarded by many as too dependent politically on conservative or reactionary vested interests to undertake those bold steps of agrarian, industrial, and fiscal reform without which popular dissatisfaction would continue to nourish the forces of the extreme Left. Even the mildest of measures to improve the status of tenant farmers vis-à-vis landlords evoked opposition within the Cabinet. On November 16 Giovanni Gronchi, "leftwing" Christian Democrat, publicly declared that his own party, and the Cabinet based upon it, were under severe pressure from reactionary capitalists and landowners. He added that he opposed the Brussels Pact as a British security device and likewise opposed the transformation of the Marshall Plan into an alliance "that would look like the outpost of an American advance into the Continent of Europe."

Such small rifts in the political solidarity of Right and Center neither evoked nor foreshadowed any Cabinet crisis. But they crystallized, on the Italian scene, a few of the many contradictions confronting the architects of the global program of anti-Communist "containment."

See ALBANIA, ETHIOPIA, GREECE, FRANCE, U.S.S.R., UNITED NATIONS, UNITED STATES, and YUGOSLAVIA.

See also Carlo Sforza, *Contemporary Italy* (Dutton, N.Y., 1944); Carlo Sforza, "Italy, the Marshall Plan and the 'Third Force,'" *Foreign Affairs*, April, 1948; Mario Einaudi, "The Constitution of the Italian Republic," *The American Political Science Review*, August, 1948; Lawrence Matthews, "Italian Colonies: Politics and Realities," *American Perspective*, October, 1948; Colston E. Warne, "Italy: Pauper or Convalescent?" *Current History*, November, 1948. —FREDERICK L. SCHUMAN

JAMAICA. A British island colony in the West Indies. Total area: 4,673 square miles, of which the dependencies (Cayman Islands, Turks and Caicos Islands, and the Morant and Pedro Cays) cover 269 square miles. Population (1947 est.): 1,314,004 in Jamaica, 13,500 in the dependencies. Chief cities (1943 census): Kingston 109,056, Spanish Town 12,007, Montego Bay 11,547. In 1943-44 there were 670 public elementary schools and 185,700 students enrolled.

Production and Trade. Agriculture is the predominant industry, with sugar and bananas the chief crops. Other important products are rum, cigars, citrus fruits, coconuts, ginger, coffee, cocoa, and logwood extracts. The annual yield of bananas averages 7 million stems (1947 export, 5,571,560 stems); sugar (1948), 192,853 long tons. Livestock is raised solely for the domestic market and includes some 200,000 cattle, 300,000 goats, and 250,000 pigs. The tourist trade is an important source of revenue and amounted to \$6 million in 1947. Foreign trade (1947): imports £18,900,000; exports £8,800,000. Principal imports are foodstuffs, textiles, petroleum products, machinery, fertilizers, and cement; principal exports sugar, rum, citrus fruit, bananas, cigars, coffee, and ginger.

Government. For 1946-47 revenue was estimated at £8,363,242 and expenditure at £8,315,484.

According to the constitution of Nov. 20, 1944, the governor is assisted by a Privy Council, an Executive Council of 10 members, a Legislative Council (upper house) of 15 members, and a House of Representatives of 32 members elected under universal suffrage. Governor: Sir John Huggins.

JAN MAYEN. An island between Greenland and northern Norway, 220 miles north-northeast of Iceland. Area, 144 square miles. It is mountainous. Mt. Beerenberg in the north being 8,350 feet high. A meteorological station was established on the island by Norwegians in 1921. The island was formally annexed by Norway on Feb. 27, 1930.

JAPAN. The present Japanese state is territorially identical with the "Restoration" Japan of 1867. Consisting of the four main islands (Honshu, Kyushu, Shikoku and Hokkaido), and a number of small adjacent islands, it has an area of somewhat over 147,000 square miles. The mountainous character of the islands makes much of Japan unsuitable for cultivation. Nevertheless, this small land area is expected to sustain a population which, by July, 1948, was estimated to total about 80 million people, as against the estimated 30 million of a century earlier. The population increase from October, 1945, to July, 1948, was 7.8 million. Until the end of 1946, repatriation of overseas Japanese was the major source of increase. Thereafter, as migration fell off to less than 22,000 per month, the increase of births over deaths was responsible. "Throughout the period from Oct. 1, 1945, to the end of May, 1948, the number of births each calendar month exceeded those for the corresponding month. In June, 1948, however, a change occurred; births were fewer in number than in June, 1947." This increase in population has aggravated the economic problem, serious in any event.

The occupation, instituted in 1945, continued throughout 1948 fundamentally unchanged in organization. Its Allied character, on the military side, was lessened with the reduction, during 1948, of British and Commonwealth forces virtually to a token level. Nevertheless Gen. Douglas MacArthur continued to be described as the Supreme Commander for the Allied Powers (SCAP), concurrently with his position as Commander-in-Chief of the American occupation forces. The 11-nation Far Eastern Commission (FEC) continued to issue directives to SCAP or to review his interim directives, both of which were to be implemented through the Japanese government. Contact with the Japanese Cabinet was either direct or through the Central Liaison Office established by the pre-surrender Japanese government on Aug. 25, 1945. Guidance rather than formal direction of the Japanese government continued to be attempted by SCAP during 1948, although the movement was steadily toward a firmer control of Japanese policy by direction rather than by informal methods.

Religion and Education. The organized religions of Japan are Shinto, Buddhism, and Christianity. Shinto takes two forms: State, or Shrine Shinto, and Sect Shinto. State Shinto had been used to reinforce the view of the Emperor as descended from the Gods, and thus politically to develop intense devotion to the Imperial House and the state. Occupation policy of separating Church and State was designed to "prevent misuse of religion for political ends." The freedom of worship consequently proclaimed was safeguarded by provisions of the new constitution.

Withdrawal of state financial support from Shinto forced reliance on individual contributions for

the upkeep of Shrines and maintenance of the priesthood. Inadequate voluntary support of the more than 86,000 Shrine Shinto establishments gave rise to reports, early in 1948, of attempts by some of the priests to find support by methods of extortion. Sect Shinto, with around 11 million adherents and some 19,000 establishments, was in a somewhat stronger financial position, although finding itself adversely affected by the inflation.

There were some indications of growth of Christianity during the period of the Occupation, as might be anticipated. Thus the number of Y.M.C.A.'s increased from the war total of 14 to 89 by the end of the first quarter of 1948, with many more projected. Interest was also indicated in the reception of Cardinal Sasaki by Emperor Hirohito in June, 1948, when the emperor was reported to have expressed admiration for missionary work.

In education the emphases of 1947 were continued. A Board of Education law, designed to further decentralization through the institution of popularly elected local boards of education, was promulgated by Cabinet order of August 19. Between that date and the elections scheduled for October 5, administrative details were worked out by the Ministry of Education and prefectural committees, and an attempt was made to popularize the proposed decentralization of educational administration.

Three additional steps, of at least indirect significance in relation to the educational program of the Occupation, were taken in 1948. On June 14 it was reported that 94 American and British books had been bought for publication in Japan by Japanese firms. This was the first step in enabling the Japanese to refamiliarize themselves with the literature of the West, restoring the intellectual contact which had been cut off. In July the press pre-publication censorship which had been operative since the occupation was discontinued. The press, after July 15, 1948, was put on its own responsibility in operating the code of 1945. And in October it was announced that UNESCO proposed to extend its work to Japan, with the approval of SCAP.

Industrial Production. The production ceiling set by the FEC in January, 1947 (1930-1934 average), had not nearly been attained by the end of 1948. As of July, over-all industrial production had reached only 55 percent of that level, and in September 58.4 percent. The greatest recovery in production was shown in mining, especially coal. While manufacturing had reached 48.6 percent of the agreed ceiling level (taken as the index base of 100), textiles had declined to only 23.3 percent, while metals had reached 62.7 percent, machinery 71.7 percent, and chemicals 79.9 percent. This, compared with the 40.9 percent of the level reached in 1947 and that of 32.5 percent in 1946, shows a slow but steady upward trend in production. This was a result of a more limited operation of some of the factors noted for 1947 as tending to restrict industrial recovery. One of these had been SCAP's policy of de-concentration of industry and of extending the purge to include managers of many of Japan's large companies.

The year 1948 saw a shift in emphasis in Occupation policy from reform and reorganization to that of promoting economic recovery. It was evidenced in the actual discontinuance of the policy of breaking up big concerns into their component production units, although SCAP declared on September 11 that there had been no change in policy. Thus SCAP instructed the government, on November 9, that 1,100 companies which had been



ELECTION EVE IN ITALY. On Apr. 17, 1948, the eve of Italy's elections under the new Constitution, Premier de Gasperi and Communist leader Togliatti address tremendous crowds at a last-minute rally at Milan. The next day the Communists and Nenni Socialists suffered a sharp defeat by virtue of a heavy outpouring of de Gasperi's Christian Democrats.

Photos from European



FRIENDSHIP FOOD. Italy receives the first shipment of Friendship Food from the United States. The ship on which the food arrived is shown above.

DEFEATED IN VITAL ELECTIONS. The Italian Communists, headed by Togliatti (left), were defeated in the elections held on April 18, 1948.



Wide World Photo

GANDHI'S DEATH. The assassination of Mahandas Karamchand Gandhi on Jan. 30, 1948, was a shock that was felt far beyond the borders of India. (Above) A souvenir hunter scoops ashes from the funeral pyre as Gandhi's body is cremated in New Delhi, India, on January 31. All except minimum essential business activity was abandoned for some days.



Photo from European

REFUGEES FROM GREECE. Greek refugee children (above) who arrived in Budapest, Hungary, during the year 1948, to seek safety and peace from their war-battered homeland. The three children are orphans of the war.



THE SNAKE PIT, a 20th Century-Fox picture, gives Olivia de Havilland a chance to display her fine acting ability. The original novel by Mary Jane Ward is a case history from a hospital for the mentally ill.



OPHELIA AND PRINCE HAMLET watch the players, in this scene from the Laurence Olivier film production of *Hamlet*.



THE NAKED CITY, produced by Mark Hellinger and featuring Barry Fitzgerald, Dorothy Hart, and the New York Police Department.



PAISAN, produced and directed in Italy by Roberto Rossellini, was one of the most successful foreign pictures shown in the United States in 1948. It treats of the closing days of war in Italy.



▲ **BABY-SITTING** is the theme of the 20th Century-Fox picture *Sitting Pretty* a vehicle for Clifton Webb's subtle talents. In the photograph Mr. Webb and his opponent are sizing up each other.



► **MISS PAULETTE GODDARD**, obviously terrified, is beset by grim Paramount extras in that studio's thrilling, vast, breathtaking spectacle entitled *Unconquered*, directed by Cecil B. DeMille. It is in Technicolor.



◀ **OLD MASTER** and pretty pupil, Fred Astaire and Judy Garland, do some tricky stepping in this scene from Metro Goldwyn Mayer's colorful picture, *Easter Parade*.

▼ **I REMEMBER MAMA** is taken from *Mama's Bank Account*, a stage play by John van Druten. Shown are Irene Dunne, June Hedin, Philip Dorn, and Barbara Bel Geddes.



placed on a restricted list because 10 percent or more of their stock had been held by *Zaibatsu* holding companies no longer needed to ask for permission to engage in business operations involving capital and plant transfers. Previously, in May, Occupation authorities approved action by the Holding Company Liquidation Commission removing 194 big companies from the list of those required to make structural changes in their organization. Fifty of these were freed entirely, while the others might possibly be required subsequently to sell their subsidiaries engaged in production unrelated to their main lines. On December 9 the United States officially withdrew its support of the much discussed FEC 230, on which the de-concentration program had been based.

The Far Eastern Commission, on October 21, directed that Japanese business men should be permitted, under SCAP directive, to go abroad to arrange for sale of their products. Further encouragement was given to private initiative, as well as to industrial recovery, with the establishment of a \$60 million loan fund (authorized in 1947) to be used for the purchase of raw cotton wherever it could be secured. Pressure was put on the government to pass a tax revision measure removing discriminations against the foreign private investor, and to enact an investment code designed to attract foreign capital to Japan. Action directed toward increase in the level of price-controlled commodities to add an incentive to produce through greater prospects of profits, and toward wage controls, was initiated.

On October 8, price decontrol itself was started. Occupation authorities acting to free 137 categories of industrial and consumer goods. Strikes which might adversely affect production were frowned on. These and other actions were in line with the American aim, stated by Army Secretary Royall on January 5, of "building in Japan a self-sufficient democracy, strong enough and stable enough to support itself and at the same time to serve as a deterrent against any other totalitarian war threats which might arise hereafter in the Far East."

Agriculture. With a big rice crop (314 million bushels), and good crops of sweetpotatoes, wheat, and barley, the food situation was improved in 1948 over 1947. Better collections of higher quotas, as a result partly of greater centralization in the allocation of quotas, made for a more effective rationing system. Collections were also facilitated because more goods were available for exchange and because of assistance in collection by American military government teams. Nevertheless, it remained necessary to import about 25 percent of the total food consumption. With this, it was possible to increase rations to a caloric intake of 1,348 from 1,243. The ration continued to have to be supplemented by open, or black, market purchases. About 60 percent of the income of urban families had to be spent for food.

A continuation of the black market in food (partly the result in certain centers of a falling behind in the issuance of rations) was indicated in a report of September 22 that plans were being made to prohibit the transportation of food in passenger vehicles. This was probably due as much, however, to farmer as to urban needs. The farmer was supposed to sell to the government at a low official price, established at the time of harvest. His purchases had to be made at a price level increased two or three times a year. He was officially allowed to retain for sale at the open-market price only 9 percent of his crop in 1948 beyond his family needs. Thus, with an increasingly heavy tax burden

(32 billion yen in 1948, although total payments for his last year's rice crop aggregated only 55 billion yen) and increases in the prices of all of his purchases, there was a pressure on the farmer to reduce his sales to the government if possible and to realize black market prices for his produce. In general, the economic situation tended to move the farmer back to his prewar status in relation to other classes, in spite of good crops.

On the other hand, the land redistribution program moved forward during 1948. By the end of July land sales under the reform program totaled 1,320,113 cho. By the end of the year it was estimated that 83 percent of the total bought for redistribution (1,800,000 cho, or 4,410,000 acres) had been sold.

Foreign Trade. Both imports and exports showed a slight increase over 1947, although the principal deterrents to trade remained. These are low production, lack of foreign purchasing power, and instability of the currency. The dollar value of exports was around 250 million, as compared with 174.2 million for 1947. Imports totaled approximately \$625 million for 1948, as against \$523,300,000 in 1947. The value of textiles exported declined, largely because of the difficulty of financing raw cotton imports, but this decline was compensated by increased exports of processed foods, industrial materials, and other manufactured products. The heaviest imports were of industrial raw materials, with food coming a close second. Among industrial raw materials, raw cotton and petroleum showed the greatest import increase.

American appropriations and government credits, together with use of the \$60 million revolving loan fund, helped to finance dollar purchases. An agreement reported in January was designed to make possible raw cotton purchases not to exceed 28 percent of the total, in India. A trade agreement with Pakistan, reported on June 6, provided for the payment for 20,000 bales of cotton with exports of cotton yarn and cloth. A similar semi-barter arrangement was made with the Netherlands Indies for the sale of \$36 million worth of textiles, with payment to be made half in dollars and half in bauxite for Japan's aluminum industry.

On November 8 an agreement was announced with British Commonwealth nations for exchanges, during the next year, to a total of £50 million. Under it, Japan is to export goods to the value of £27,500,000, sixteen million of which is to be in textiles, with the balance in machinery, raw silk, rolling stock, chemicals, etc. In exchange, the Commonwealth countries are to supply Japan with raw wool, raw cotton, iron ore, salt, cereals, petroleum, rubber, tin, etc., to the value of £23 million. There also has been direct barter, through individual trading, with Far Eastern countries, Hong Kong serving as a clearing house. This has been possible because of a modification of SCAP's policy of demanding dollar payment for Japanese goods even from "soft currency" countries. In 1948 Japan had approximately an 8-1 favorable balance in trade with other Far Eastern countries; her United States deficit, however was in excess of 25-1. "About 20 percent of import contracts and 50 percent of export contracts have been executed through private trade channels."

Finance. The budget as enacted in July reached the new peak of 414,000 million yen. As previously, the largest single item budgeted was that of occupation costs (98,000 million yen). The second largest item was 50,000 million yen, to be used as a subsidy to producers to permit them to sell at prices below production costs under government

controls. These subsidies were allocated by the Reconstruction Bank which, by June, 1948, already had outstanding loans totalling 59,500 million yen, of which 33,500 million yen represented deficit industrial financing. Approximately 8 percent of the total budget (30,000 million yen) was set aside to meet local government needs. The total was increased in supplementary budget proposals made to the Diet in November.

To meet the proposed expenditures, a new transactions tax was introduced, charges on all government-owned utilities were increased, and 100,000 millions of new currency was to be issued.

Government. Under the constitution of 1947 Japan has the cabinet or parliamentary form of government. The Emperor has a symbolic position as head of the state. Control is vested in a two-chamber legislature (the House of Councillors and the House of Representatives), the members of which are elected by universal suffrage. The Representatives have 4 year terms, and the Councillors 6, with half the membership elected every 3 years. The House of Representatives may be dissolved by the Emperor on advice of the Cabinet. The executive powers are exercised by the Cabinet, headed by the Prime Minister. It is responsible to the legislature, and must resign in the event of a vote of no-confidence or dissolve the House of Representatives. Consequently it must command a majority in the lower House. Unless a single party has a majority, Cabinets are constructed on a coalition basis, after the legislature designates the Premier.

The Prime Minister at the end of 1948 was Shiguru Yoshida, leader of the conservative Democratic-Liberal Party. His Cabinet contained only 3 non Liberal Party members. Dissolution at the end of 1948 required new elections in January, 1949, which changed the party groupings in the Diet.

Events. Developments of 1948 represented in part the carrying forward of activities initiated by SCAP in previous years and in part a response to the American determination, announced to the FEC on January 21, to revive the Japanese economy and put it on a "peaceful self supporting basis." The former required a continuation of reform activity, such as the land redistribution program already referred to. The latter was responsible for aspects of economic activity which have been described, such as the trade pact.

One important series of events brought to a final conclusion in 1948 was the War Guilt trials initiated at the beginning of the Occupation. Presentation of the defense occupied much of 1948. The verdict of guilty was handed down on November 12 by the International Tribunal for General Tojo and 24 others, with the death penalty imposed on him and six of the 24. The sentences were reviewed by General MacArthur, as the Supreme Allied Commander, and upheld on November 24. Appeal for stay of execution and a review of the case was made to the United States Supreme Court by Hirota and Doihara on November 29. The Supreme Court agreed to hear the appeal on December 7. Its findings, however, upheld the authority of the International Tribunal and the sentences were duly executed before the end of the year. In connection with the verdicts, speculation centered on their possible effect on Hirohito, some arguing that he might abdicate in the near future.

The principal political events of the year related to Cabinet changes and party alignments. Splits in both the Democratic and Social Democratic Parties, especially over questions of postal and railway rates, reported in January, and Social Democratic Party left-wing influence on policy, as revealed in

the party convention, so weakened the coalition that the early fall of the Katayama government was predictable. It resigned in February, and was succeeded by a Cabinet headed by Hiroshi Ashida, leader of the Democratic Party, in spite of the strength of Yoshida's Liberal Party which, reorganized as the Democratic Liberal Party, had drawn members away from the other two.

The Ashida government lasted until October when it was overthrown on the charge of corruption. Ashida himself was implicated and, after some hesitancy, his arrest was announced on November 30. His government was replaced on October 19, after a period of inter-party negotiating, by a Liberal Party Cabinet headed by former Premier Yoshida. At the time of his installation a Diet committee had been set up to investigate the affairs of his first government, to ascertain the sources and disposition of contributions made to the Liberal Party war chest.

Corruption in Japanese politics is not a postwar development. The principal prewar source of party funds had been the Zaibatsu and other big business enterprises which had been tied through the parties into mutually beneficial relations with the governing bureaucracy. This source of funds had been largely dried up as a result of the anti-Zaibatsu and de-concentration policies of the Occupation. Those who could benefit immediately from a close relationship to government were contracting enterprises of various sorts. Consequently they had begun to lavishly finance the governing parties. It was the use of the funds thus secured, together with the policies followed in repayment, which were brought to the surface with the charges of corruption in 1948.

Other causes of dissatisfaction with existing governments during 1948 were both political and economic. There was a recurrent demand for reduction of a swollen administrative personnel. Thus on May 29 it was reported that business interests and the opposition parties were demanding such a reduction. The bureaucracy had virtually doubled since 1945, to a total of 2.8 million. In place of reduction, by October the total had risen to over 3 million. It was argued by the government that no decrease could be made while the complex of controls of the national economy was continued. But the justifications advanced did not remove dissatisfaction with the failure of the government to take action.

Another recurrent political question was raised with attempts to satisfy SCAP demands for political decentralization. Financial dependence on the central government was one reason why local officials now elected continued to look to Tokyo for direction. To lessen this dependence a provincial tax reform bill was introduced into the Diet on June 6. It provided for new provincial taxes, increased rates, and slightly increased subsidies from the national treasury.

Economic events, other than those already listed, were mainly in the field of labor relations. After the relative freedom from strikes of 1947 they were resumed in 1948, first of all by organizations of public employees, with the four-day series of one-day railway strikes beginning May 18. These led the government (July 31), at the request of SCAP, to prohibit strikes on the part of public employees and to deny to them the right to bargain collectively through their unions on questions of wages, hours, etc. Their status thereafter was to be regulated on the basis of law. On August 10 plans for the replacement of most government-employee trade unions by voluntary associations without le-

gal status as unions were announced. Labor dissatisfaction with the new policy (of SCAP as well as the government) led to demonstrations and also to strikes, especially by railway and electrical workers, in various parts of the country. These strikes were broken by the government, where necessary enforcing compulsory arbitration. The policy was also denounced by the Soviet Union, which was, in turn, denounced by MacArthur for its failure to observe its obligations with respect to the repatriation of Japanese prisoners of war.

The shift in emphasis from reform to economic reconstruction made SCAP increasingly intolerant of anything which might adversely affect production and economic recovery. General MacArthur in his New Year message had said: "The pattern has been etched, the path has been laid. The development lies largely in your own hands." This seemed to indicate that the policy of advice and guidance would continue to be followed by SCAP. The continued slowness with which the Japanese government responded to advice, however, brought SCAP more and more toward direction. This slowness is to be explained partly in terms of uncertainty which the guidance system produced as to the real desires of SCAP, and partly in terms of the desire of the government not to assume responsibility for unpopular actions. But the consequence was that on December 17 the United States directed the Japanese government to "enter upon a stringent economic stabilization program aimed at curbing inflation and speeding the country toward self-sufficiency." The indications were that unless the Japanese government moved with rapidity and vigor, the Occupation authorities would replace it.

Concurrently with this American initiative the Yoshida government called for new elections on Jan. 23, 1949. These elections are apparently to be supervised by American military government teams to determine the honesty with which the campaign and election is conducted and also to observe communist election tactics.—HAROLD M. VINACKE

JARVIS ISLAND. An island in the mid-Pacific (0° 23' S. and 159° 54' W.), belonging to the United States. It lies in the path of the main steamship lanes and airways from Honolulu to New Zealand and Australia.

JOHNSTON ISLAND. An island in the central Pacific (16° 44' 32" N. and 169° 30' 59" W.), 717 miles southwest from Honolulu. It has a lagoon formation, the reef being about eight miles long. On the reef are two islands, the larger one, Johnston Island, being about one-half mile long. The small one, Sand Island, is a mere sand bank about 500 yards in diameter. On July 27, 1859, the island was formally annexed to Hawaii by proclamation of Kamehameha IV. By Executive Order dated Dec. 29, 1934, together with Kingman Reef and Sand and Wake Islands, it was placed under the control and jurisdiction of the U.S. Secretary of the Navy, subject to the use of the island by the U.S. Department of Agriculture as a bird reservation. The island is considered part of the Hawaiian Islands and is important as a defense outpost.

JOINT BRAZIL-UNITED STATES DEFENSE COMMISSION. A Commission composed of military delegates (Army, Navy, and Air Forces) of the two countries, established in August, 1942. Meetings are held in Washington for the purpose of making staff plans for the mutual defense of the Western Hemisphere. U.S. Chairman: Rear Adm. Osborne B. Hardison.

JOINT CHIEFS OF STAFF, U.S. The Joint Chiefs of Staff was established within the national Military Establishment by the National Security Act of 1947, with duties as follows:

1. Strategic planning for and direction of military forces.
2. Joint logistic plans and assignment of logistic responsibility to services thereunder.
3. Establish necessary unified commands in strategic areas.
4. Formulate joint training policies.
5. Formulate coordinating education policy for services.
6. Review major military material and personnel requirements under strategic and logistic plans.

7. Provide United States representation on Military Staff Committee of United Nations.

Joint Staff, U.S. The Joint Staff, established under the Joint Chiefs of Staff by the National Security Act of 1947, operates under a Director appointed by the Joint Chiefs of Staff and performs such duties as may be directed by the Joint Chiefs of Staff.

National War College. The National War College, organized by authority of the Joint Chiefs of Staff, has the mission of preparing selected ground, air, and naval officers, and officers of the State Department, for joint staff and command duties on the highest level in behalf of the national security.

The College devotes some four months of the academic year to a close and systematic examination of international relations and world affairs, the international consequences of the atomic bomb, United States commitments and responsibilities abroad, and the formulation of United States foreign policy and its implementation through methods short of war. Instruction in this part of the course is conducted by a small group of distinguished resident civilian instructors and an outstanding group of visiting lecturers. The last six months of the school year are devoted to the study of grand strategy, the strategic areas of the world, and the scientific and technological advances which have complicated the task of maintaining the national security.

Certain parts of the course are held in conjunction with the Industrial College of the Armed Forces, located immediately adjacent to The National War College at Fort Lesley J. McNair.

Industrial College of the Armed Forces. The Industrial College of the Armed Forces is one of the two colleges on the highest plane of the educational system of the Armed Forces. It prepares officers of the Army, Navy, and Air Force, and selected civilians, for important command, staff, and planning assignments in the National Military Establishment and other Government agencies. Other important objectives of the College are: the conduct of study in all economic factors of national strategy and the interrelation of these economic factors to the political, military, and psychological factors; the conduct of study in all aspects of joint logistic planning and the interrelation of this planning to joint strategic planning and to the economy of the Nation; the promotion of understanding and study of all agencies and of economic and joint logistic factors which are important to the Nation and to the Armed Forces; the evaluation of the economic war potential of foreign nations and the conduct of study and research in those fields; and the fostering of close relations between the Armed Forces and civilian engineering, scientific, and educational groups in the study of the social, political, and economic impacts of war.

The regular course extends over a period of ten

months and is conducted by using graduate school methods. It is designed to qualify its students to hold positions of the highest responsibility in the offices of the various Secretaries of the Army, the Navy, and the Air Force; Office of the Joint Staff; Office, Chief of Staff, United States Army; Office, Chief of Naval Operations; Office, Chief of Staff, United States Air Force; the Munitions Board and other joint Army, Navy, and Air Force planning and logistic activities; offices of the chiefs of the various Technical Services, Materiel Commands, and Bureaus; and directorates in the Army, Navy and Air Force.

Armed Forces Staff College. The mission of the Armed Forces Staff College, located in Norfolk, Va., is to train selected officers of the Army, Navy, and Air Force in joint staff techniques and procedures; the organization, composition, and functions of theaters and major task forces, and the strategic, tactical, and logistical responsibilities of such commanders; and the preparation for amphibious and airborne operations involving the employment of joint forces. Graduate officers are assigned duties on joint operations to include joint overseas expeditions and theater operations.

—JOHN H. IVES

JOINT MEXICAN-UNITED STATES DEFENSE COMMISSION. A Commission established Feb. 2, 1942, by Executive Order, to study problems relating to the common defense of the United States and Mexico, to propose to the respective governments the cooperative measures which, in its opinion, should be adopted. U.S. Steering Member: Maj. Gen. Robert L. Walsh, USAF.

JUDAISM. Although Zionism today is not exclusively a religious movement, the emergence of the state of Israel immediately enlarged Jewish religious interest and adherence. In all Jewish communities outside of Israel, as well as in that land itself, there were noteworthy evidences of renewed devotion to Jewish education, the Hebrew language, the synagogue, and traditional observance.

Though there has been some protest against "clericalism" and adherence to Old Testament law, even irreligious members of the Israeli government now support Sabbath and dietary observance in civilian and military life. The compulsion is only moral, but it remains powerful. The displaced persons now streaming into Israel are largely of the religious class; during their years of hardship they were sustained by religious organizations and supplied with books and religious articles by the Joint Distribution Committee. Thus they have been able to carry their predilections into the land; and though only thirteen percent voted the religious ticket in Israeli elections, as many as ninety percent have been shown to be faithful to tradition. American orthodox groups have been agitating for the creation of a new supreme religious court in Israel, and have opposed any further secularization of life in the Holy Land.

The United States has witnessed increase of traditionalism even among liberal Reform groups. The Central Conference of American Rabbis now directly opposes intermarriage by rabbis, and urges all year round services in the temples. During the year past the two Reform seminaries—the Hebrew Union College and the Jewish Institute of Religion—were merged under the presidency of Dr. Nelson Glueck. The Conservative wing of American Jewry, centered in the Jewish Theological Seminary, is helping spread the synagogue-center idea, and is sending rabbis to European communities. The chief

orthodox institution of higher education, Yeshiva University, is projecting a non-sectarian medical school. Brandeis University, in Massachusetts, is now functioning under Jewish auspices, with Dr. Abram Sacher as president.

Remaining European communities are still repairing the war's religious devastation. Great Britain, under its new chief rabbi, Dr. Israel Brodie, is producing many new publications with that end in view. American philanthropy is the chief aid of continental countries. The religious regular full-day school, rapidly expanding in the United States, has been extended to Australia, Belgium, and other countries.

However, not alone Christian minorities, but rabbis and others have fallen where totalitarianism has taken over. Efforts, notably in Poland, to obtain governmental consent to fuller religious observance, are proving vain. Some Balkan countries are rendering it difficult for Jews to migrate to Israel, in accord with previous Communist opposition to Zionism.

The world's ten million professing Jews are everywhere seeking spiritual growth and regeneration. The ancient and medieval literature of Judaism, largely destroyed, is being reproduced in the United States; and there are numerous new studies and texts for religious education.

ABRAHAM BURSTEIN

JUSTICE, U.S. Department of. A Department of the U.S. Government which in 1948 had the following divisions and offices.

Office of the Attorney General
Office of the Solicitor General
The Assistant to the Attorney General
The Criminal Division
The Antitrust Division
The Tax Division
The Lands Division
The Claims Division
The Customs Division
The Assistant Solicitor General
The Federal Bureau of Investigation
The Federal Bureau of Prisons
Board of Parole
Board of Immigration Appeals
Pardon Attorney
The Immigration and Naturalization Service
The Office of Alien Property
Administrative Assist. to Attorney General
Attorney General: Tom C. Clark. Solicitor General: Philip B. Perlman.

KANSAS. A west north central State. Area: 82,158 sq. mi. Population: (July 1, 1948) 1,968,000, compared with (1940 census) 1,801,028. Chief cities: Topeka (capital), 67,833 inhabitants in 1940; Wichita, 121,458. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$112,312,000; total expenditure, \$101,129,000.

Elections. As in 1944, Dewey won the 8 electoral votes, but with a much reduced popular majority. Republican Andrew F. Schoeppel succeeded to the seat held by Senator Capper who did not run for reelection, and all 6 House seats remained Republican. Republican Governor Frank Carlson was re-elected, and the following Republicans were successful: Lieutenant Governor—Frank L. Haggaman; Attorney General—Edward F. Arn; Auditor—George Robb; Treasurer—Richard T. Fadely; Superintendent of Public Instruction—Adel F.

Throckmorton; Insurance Commissioner—Frank Sullivan. Democrat Larry Ryan was elected Secretary of State. The voters also voted to repeal prohibition and to increase the pay of legislators.

Officers, 1948. Governor, Frank Carlson; Lieut. Governor, Frank L. Hagaman; Secretary of State, Frank J. Ryan; Attorney General, Edward F. Arn; State Treasurer, Richard T. Fadely; State Auditor, George Robb.

KARAFUTO. The Japanese name for that part (south of 50° N.) of Sakhalin island, formerly under Japanese control. It was occupied and taken over by the U.S.S.R. following the defeat of Japan by the Allies in 1945.

KELLOGG FOUNDATION. W. K. A Foundation established by W. K. Kellogg in 1930 to promote the health, education, and welfare of mankind, but principally of children and youth, directly or indirectly, without regard to sex, race, creed, or nationality. Operates by making grants to established organizations for the conduct of new and experimental programs in the fields of dentistry, education, hospitals, medicine, nursing, and public health.

Expenditures for the year ended Aug. 31, 1948, were \$2,099,484. Total capital assets on that date were \$47,531,830. Membership: Nine members of the Board of Trustees. President and General Director, Emory W. Morris. Headquarters: Battle Creek, Mich.

KENTUCKY. An east south central State. Area: 40,598 sq. mi. Population: (July 1, 1948) 2,819,000, compared with (1940 census) 2,845,627. Chief cities: Frankfort (capital), 11,492 inhabitants in 1940; Louisville, 319,077. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$119,689,000; total expenditure, \$103,908,000.

Legislation. The regular biennial session of the Kentucky General Assembly, which convened January 6, adjourned March 19 and authorized record-breaking biennial general fund expenditures of \$120,500,000. Tax increases included a 3 percent tax on pari-mutuel betting; license fees on coin-operated devices; increased whiskey fees; and increases raising gasoline and Diesel oil levies from 5 to 7 cents a gallon, primarily for rural road improvement.

For educational costs, \$71,395,000 was authorized. The State's educational system is to be studied by a new permanent Legislative Research Commission.

Other new State agencies include the Department of State Police; a Department of Economic Security to administer unemployment compensation, employment service, public assistance, and child welfare programs; Department of Aeronautics; a Building Commission; and an Agricultural and Industrial Development Board. The legislature increased unemployment and workmen's compensation benefits; tightened child labor laws; amended insurance regulatory laws; removed legal barriers to training white and Negro nurses and doctors in the same hospitals; adopted the interstate parole and probation compact; raised the pay of State employees; and authorized cities to levy new nonproperty taxes.

Elections. Truman won the 11 electoral votes, gaining a larger majority over Dewey, Thurmond, and Wallace than Roosevelt had in 1944. In the

Senatorial race Democrat Virgil Chapman defeated Republican incumbent John Sherman Cooper; Democrats gained 2 new House seats for a total of 7 against 2 for the Republicans. There were no Statewide contests for State office.

Officers, 1948. Governor, Earle C. Clements; Lieut. Governor, Lawrence Wetherby; Secretary of State, George G. Hatcher; Attorney General, A. E. Funk; State Treasurer, Edward F. Seiller; State Auditor, Harry N. Jones.

KENYA. A British colony and protectorate in East Africa. Area: 224,960 square miles. Population (1947 estimate): 4,187,355, of whom 23,284 were Europeans. Capital: Nairobi (100,000 inhabitants in 1947).

Production and Trade. Agriculture, stock raising, forestry, and mining are the principal occupations. Estimated crop production in 1946 (in tons): maize 112,530, wheat 76,458, sisal 27,033, potatoes 23,118, wattle extract 11,946, coffee 6,952, tea 5,481, and pyrethrum 6,860. Livestock (1946): 4,529,000 cattle, 3,200,000 sheep and goats, 5,600 horses, 181,000 camels, and 37,000 pigs. Butter production (1946) totaled 6,336,000 lb.

Gold is the principal mineral mined—the 1946 output (29,892 fine oz. troy) being valued at £257,942. Other minerals produced, including salt, lime, asbestos, diatomite, graphite, and soda (but excluding gold), were valued at £636,850 in 1946.

Foreign trade, Kenya and Uganda combined, 1947: imports (general) were valued at £31,200,000; exports (general) including reexports, £31,920,000.

Government. Budget estimates (1948): revenue £7,237,222; expenditure £6,841,712. The colony and the protectorate are administered as a unit. A governor heads the administration and is aided by an Executive Council of 10 members and a Legislative Council consisting of 11 elected European members, 5 elected Indian members, 1 elected Arab member, 2 nominated members, and 1 ex-officio and 9 nominated official members. By the Kenya Annexation Order in Council, 1920, the territories of the mainland dominions of the Sultan of Zanzibar, remain a protectorate. Governor and Commander-in-Chief: Sir Phillip Mitchell. (See EAST AFRICA HIGH COMMISSION.)

KINGMAN REEF. A small reef, 150 feet long by 120 feet wide, in the Pacific (6° 24' 37" N. and 162° 22' W.). By U.S. Executive Order dated Dec. 29, 1934, Kingman Reef was placed under the administrative control and jurisdiction of the Secretary of the U.S. Navy. It is the only possible seaplane base between Honolulu 1,067 miles north and Pago Pago 1,797 miles to the southwest, on the air route to Auckland, New Zealand. Kingman Reef was made a U.S. National Defense Area by Executive Order of President Roosevelt, dated Feb. 14, 1941, and foreign planes and surface craft were prohibited.

KOREA. A peninsular country located on the Asiatic continent, between the Yellow Sea and the Japan Sea. Formerly a kingdom tributary to China, annexed by Japan on Aug. 22, 1910. Korea was occupied under terms of the Potsdam Agreement in September, 1945, by U.S.S.R. forces in the north and by United States forces in the south, separated by the 38th parallel of latitude.

Area and Population. Total area: 85,246 square miles. Estimated total population (1947): 29,300,000. South Korean Republic: 37,055 square miles; population 20,300,000. North Korean Republic:

48,191 square miles; population 9,000,000. Chief cities: Seoul (capital of the southern republic) 1,141,766 inhabitants (1946); Pusan 249,731 (1940); P'yongyang (capital of the northern republic) 205,965 (1940); Incheon 171,161 (1940). A total of 410,912 refugees from North Korea entered South Korea between January in 1946 and June of 1948. Migration from south to north was reported to be negligible.

Education and Language. During Korea's 35 years as a Japanese colony, Japanese educational methods were dominant, and use of the Korean language was officially discouraged. Since 1945, Korean has again become the official language, and literacy has risen from 60 percent to 75 percent.

South Korea (July, 1947) had 3,312 elementary schools with 2,109,002 students; 395 secondary schools with 161,927 students; 25 colleges and universities with 13,827 students. North Korea (January, 1947) had 2,482 elementary schools with 70,000 students; 27 colleges and universities with 12,330 students.

The year 1948 in South Korea saw the establishment of school districts and boards of education and the substitution of household levies for the land tax as the chief means of supporting the school system.

Religion. Chief religions are Animism, Confucianism, Buddhism, and Christianity. In 1948 the estimated Christian population was 670,000; some 500 American missionaries were stationed in the south.

Production and Trade. Division of the country into two political units remained the chief economic problem in 1948.

North Korea is the more highly industrialized portion. Its production plans for 1948 included 9,000,000 tons of pig iron, 39,300 tons of crude steel; 332,000 tons of chemical fertilizer; 158,000 tons of salt; 1,770,550 acres of rice land. Figures on North Korea's actual output are not available.

In South Korea shortages of skilled labor, machinery, and raw material continued to impede production. Suspension of power transmission in May, 1948, deprived South Korea of 80 percent of its electrical power, reversing the slow upward trend in industrial output. In March, 1948, the National Land Administration superseded the New Korea Company, established in 1946 to administer holdings of the Oriental Development Company and other Japanese concerns in Korea. The Administration immediately began the sale of land to tenants. The holdings involved comprised one-tenth of the planted area in South Korea (687,246 acres), operated by 587,974 tenant families who represented 43.5 percent of the farm families in South Korea. Purchasers received clear title to their land.

From 1910 to 1945 Japan dominated Korea's foreign trade. After the surrender, the U.S. Military Government regulated trade in the southern sector; the Soviet-sponsored People's Committee that in the northern sector. In mid-1948 the constitutional regimes in both sectors assumed these powers. Imports into South Korea (Jan.-Sept. of 1948) totaled 2,779,953,450 won in value; exports 2,825,663,309 won. Chief imports were rubber, yarn, coal, machinery, textiles, chemicals, and foodstuffs. The important exports were seafoods, minerals, raw silk, and tungsten. Trade was mainly with Hong Kong, China, Japan, and the United States.

In 1940 Korea had 2,919 miles of government railways and 1,234 miles of private railways. On May 1, 1946, South Korea had 1,679 miles of railways.

Finance. The monetary unit in the south, the won (formerly the Japanese yen), continued to depreci-

ate in 1948. The exchange rate (December, 1948): 450 won to U.S.\$1. Won in circulation rose from 4,000 million in 1946 to 40,000 million in 1948. South Korea's budget for the fiscal year 1948-49 called for expenditure of 21,118,146,463 won; anticipated revenue totaled 22,000 million won.

Government and Politics. Korea has 13 provinces, each under a local prefect. From 1910 to 1945 the country was ruled by a Governor General appointed by the Emperor of Japan; and the administrators were primarily Japanese.

South Korea, 1948. From September 1945 to August 1948 South Korea was governed by the United States Army Military Government in Korea (USAMGIK). It was run through a Korean administration—the Korean Interim Government (SKIG).

The Allied Powers at Moscow, in December, 1945, promised complete independence to Korea after a 5-year period of Allied trusteeship. This elicited protests from all Korean political parties except the Communists. When the Soviet American Joint Commission in 1946 and 1947 sought to erect an interim government, the Russians insisted that only Koreans who had endorsed the Moscow Agreement should be enfranchised; the Americans declared that such disfranchisement would be undemocratic. On Nov. 14, 1947, at the proposal of the United States, and with the Soviet bloc abstaining, the UN General Assembly voted to constitute a Temporary Commission on Korea (UNTCOK) in order to hold elections to a constituent assembly which would form a united Korean government. After unsuccessful efforts to reach an accord with North Korea, the UN Interim Committee decided on Feb. 27, 1948, to hold elections in South Korea alone.

The UN decision crystallized the cleavage among South Korean political factions, with the rightist Syngman Rhee favoring the UN action, the moderate Kimu Kiuse and the rightist Kim Koo holding out for bizonal elections, and the Communists demanding immediate evacuation of United States and Soviet troops. In the Korean Interim Legislative Assembly the issue led to the resignation of Speaker Kimu Kiuse, Kim Koo, and 30 other legislators. This brought the work of the Legislative Assembly to a standstill.

On May 10, 90.6 percent of the 7,729,909 registered voters (almost 80 percent of those eligible) cast their ballots in the UN-supervised elections to the National Assembly. With the Communists and certain moderate and rightist groups abstaining, candidates supporting the conservative Dr. Rhee won a substantial plurality of the Assembly.

The new Constitution adopted in June, 1948, called for a unicameral legislature (which chooses the president), and state control of foreign trade, transportation, and mineral resources. In July the National Assembly elected Dr. Rhee first President of the South Korean Republic with Lee Si Yung as Vice President. In August the new republic was inaugurated; USAMGIK was abolished; the U.S. Army Civil Affairs Section assumed its functions; Lt. Gen. John Hodge, Commander of U.S. Forces in Korea since V-J Day, was reassigned and succeeded by Maj. Gen. J. B. Coulter. (On Jan. 14, 1949 Brig. Gen. William L. Roberts took over this post.)

Cabinet of the South Korean Republic (autumn, 1948): Prime Minister—Lee Bum Suk; Foreign Affairs—Ko Chang Li; Commerce and Industry—Miss Yim Young Sin; Education—An Ho Sang; Communications—Yoon Suk Koo; Interior—Yun Chii Young; Social Welfare—Lee Yun; Transport—

Min Hi Sik; Agriculture and Forestry—Cho Bong Am; Justice—Lee Inn.

In August the United States agreed to continue to train and equip Korean constabulary and coast-guard units and to command these forces as well as the national police until the withdrawal of American forces. Plans provided for an army of 100,000 men and a navy of 10,000 men.

A number of anti-government uprisings occurred in late 1948, the most serious breaking out in the southeastern port of Yosu. For a brief period martial law was declared.

In December the U.S. Economic Cooperation Administration announced a three-year, \$300 million aid program for South Korea. On Dec. 12, 1948, the UN General Assembly at Paris recognized the Seoul government as the only legitimate government in Korea. On Jan. 1, 1949, the United States extended full recognition to the new republic of Korea. Australia, China, and the Philippines followed suit. Chang Myun, chief of the South Korean delegation to the UN, was made Minister to the United States. Special envoys were sent to London and Manila. The United States named John J. Muccio its first Ambassador to the Seoul regime.

North Korea, 1948. North Korea is administered by the Democratic People's Republic of Korea, proclaimed in September, 1948. The regime succeeded the North Korean People's Committee, established in 1945 under the sponsorship of the U.S.S.R.

During April 19-28 the first North-South Korean Unity Conference met in Pyongyang. It was attended by 545 delegates representing 56 parties, including non-Communist southerners like Kimm Kiusec and Kim Koo. The Conference demanded the immediate withdrawal of U.S.S.R. and United States troops and the abandonment of separate elections. On May 1 a new constitution was adopted calling for a popularly elected assembly which chooses a ruling 15-man presidium. Kim Il Sung was named premier of a cabinet which included 8 South Koreans. The U.S.S.R., Mongolia, and Poland recognized the Pyongyang government, which claimed sovereignty over the entire peninsula.

In May the Government suspended the power supply to South Korea, asserting that an agreement to supply certain materials had been violated. USAMGIK refused to negotiate since such an act would imply recognition of the new Government. In September, the U.S.S.R. announced that her troops would be withdrawn from Korea by December, 1948. The United States refused to do likewise, arguing that troop withdrawal was merely part of the general problem under UN consideration.

Koreans Abroad, 1948. In April, the closing of Korean schools in Kobe and Osaka by Japanese authorities provoked an uprising of Koreans there. United States forces proclaimed a limited emergency—the first since the beginning of the occupation—and aided in quelling the disturbance. In July and August 56 Koreans competed in the London Olympic Games. More than 100 Koreans went to the United States for advanced study or on-the-job-training. The greater part of a \$25 million loan from the U.S. Foreign Liquidation Commission was earmarked to assist Korean students at home and abroad.

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G. M. McCune, "The Korean Situation," and Paul Dull, "South Korean Constitution," *Far Eastern Survey*, vol. xvii, no. 17. Two American periodicals concerned with Korea are the bimonthly *The Voice of Korea*, Korean Affairs Institute, Washington, D.C., and the semiannual *Korean Review*, Korean-American Cultural Association, Seattle, Wash.

—CARL F. BARTZ, JR.

KOREAN LITERATURE, ARTS AND CRAFTS. The most conspicuous change in the field of literature and art during 1948 was in the direction of Westernization, particularly in the so-called fine arts. Two events determined the trend: the visit, lasting eight months, of the members of the UN Commission, and the election and inauguration of Korean governments in both zones. Literature and art developed as accessory tools of various political factions. Libraries and museums grew dusty and school teachers grew more wary as "dangerous thinking" became once more the concern of the police. Rejecting cultural importations from China and Japan, the new Korean revived native folklore and folksong, refreshed his spirit with glorious episodes from his own history and expressed himself in modern media.

A new technique was developed by many writers, that of composing radio-script for which Korean talent had a natural bent. The publication and distribution of textbooks continued at an accelerated pace, the end of the year bringing the total to the 15 million mark. Progress was also made in the perfection of the vernacular style, the standardization of spelling and the elimination of Japanese and to a certain extent, of Chinese, loan-words.

Literature. Journalistic literature still leads the field in both volume and influence. Neutral newspapers were: *Seoul Shinmun*, *Chayoo Shinmun*, *Sin Min Ilbo*, *Choson Ilbo*, etc. On the extreme right was the *Pyungwaha Ilbo*, and on the left, the *Choson Choong Ang Ilbo*; and ranging between were some fifty papers all exercising the right to instant and critical editorial comment on the many important political occurrences of the spring and summer.

The forms employed by Korean writers were still the forms most useful to the writer with a message: editorials, essays, historical plays and novels, biographies and histories, and radio-script. *The Cultural History of the Korean People* by Sol Chintai, a leading historian, was an important publication. Other well-known authors were: Sul Chungsic, editorialist and poet, Lee Insoo, poet, Li Taejun, novelist, Li Kwangsu, novelist, Han Sulya, novelist, and Choi Kiyun, poet.

One daily paper and one monthly paper was published during the year by women for women dealing with domestic problems and informing the feminine public about fashions. (The schoolgirl is "not privileged to wear fancy bows, permanent waves or make-up of any kind.")

Language. Publication of the first volume (of six) of the *New Korean Dictionary* by the Eulyu Publishing Company was an important step forward in Korean lexicography, incorporating as it did new spellings, correct usage, phonetic standards.

Dramatic Art and Music. Twenty dramatic clubs presented plays in Seoul, a week apiece, in a contest conducted by the Department of Education. A patriotic play *For the Fatherland* was prepared for the election campaign and was performed in the provinces by teams "to help Koreans understand

election principles and procedures." The first annual music festival featuring both western and Oriental music was held in Seoul in May; the first shortwave broadcast of symphonic music was made by the Seoul Philharmonic Orchestra also in May; and the first film of the Seoul Symphony Orchestra was made.

Old Korean music and a play *Spring Fragrance* were produced on various occasions for the entertainment of the members of the UN Commission. It should be noted here that the customary prerogatives of the dancing and singing girl were abridged during the year when members of the Commission were entertained officially by Korean leaders who were assisted for the first time by their wives instead of dancing girls. Puppet shows were used in the provinces to teach conservation of forests, flood and erosion control, in 37 performances of a simple nature. Mobile education units of various types were organized to teach modern techniques. *The Self-Sounding Drum*, a play based on an ancient tale, was produced in Seoul in the summer of 1948 to celebrate the inauguration of the Republic of Korea.

Radio. KBS was reorganized in conformity with BBC rules and so was able to give full coverage to Korea's performance at the Olympics. HUKA (Seoul Station) developed a staff of writers and technical assistants trained in Occidental standards and techniques, who by the year's end were qualified to assume full responsibility for most major programs. KBS added to its library of western transcriptions and also recorded a number of Korean folk songs to export.

Arts and Crafts. Art exhibits were held in Seoul featuring student work from the National University, the work of Chungon Nyon, a woman painter of merit, the work of Kim Kichong, depicting Korean customs, and the work of Kim Doowhan, of life in his native Yesun and in Seoul and Tokyo. Somye-do sponsored an industrial and artcraft exposition featuring textiles, ceramics, and straw-weaving. The curio trade prospered with the usual commodities - lacquer, brass, silver, and basket-ware.

- EVELYN B. McCUNE

KURE (Ocean) ISLAND. An atoll in the Pacific 28° 25' N., and 178° 30' W. It is about 15 miles in circumference, oval in shape, enclosing a lagoon, the entrance of which is about one mile wide. Green Island, in the southeasterly part of the lagoon, is about 20 ft. high. Westward of Green Island are two small sand islets. President Roosevelt, on Feb. 20, 1936, signed Executive Order No. 7299, which provided that Kure (Ocean) Island, together with the surrounding reef, "be reserved, set aside, and placed under the control and jurisdiction of the Secretary of the Navy, for Naval purposes."

KURILE ISLANDS (Chishima). A chain of 17 islands reaching from the Japanese island of Hokkaido to the tip of the Kamchatka peninsula in the eastern Asiatic U.S.S.R. The most important islands are Kunashiri, Etorofu, Uruppu, Shumshiro, and Paramushiro. Total area: 3,944 square miles. Population: 5,000, exclusive of a large number of hunters and fishermen who enter the islands from the south during the summer. The islands were occupied by the U.S.S.R. after the surrender of Japan in 1945.

KUWAIT (Koweit). An Arab state south of Iran, at the head of the Persian Gulf. Area: 1,930 square miles. Population (est.): 100,000, exclusive of some Bedouins. Capital: Kuwait. The principal ex-

ports consist of pearls, wool, dillows, and horses. Oil was discovered during 1938. The country is in treaty relations with Great Britain. Ruler: Sheik Sir Ahmed al Jabir al Sabah.

The Kuwait Oil Company, owned by the Anglo-Iranian Oil Company (British) and the Gulf Oil Corporation (American), continued its two-year program aimed at producing the current output of 492,000 barrels of oil daily to over 150,000 barrels a day. New equipment was imported from the United States and labor was under way for the construction of a refinery. See SAUDI ARABIA.

KWANTUNG. The territory occupying the southern part of the Eastern peninsula in Manchuria, leased from China by Japan, 1905-45. It was returned to China in accordance with the conditions of the Sino-Russian agreement of Aug. 14, 1945. Area: including adjacent islands, 1,438 square miles. Population (1940): 1,267,334. Chief towns: Dairen (Dai-ry), 315,744 inhabitants; Port Arthur (Ryopun), 145,386; Pulantien; Kinchow.

LABOR, U.S. Department of. A Department of the U.S. Government which in 1948 consisted of the following principal bureaus and divisions:

Bureau of Apprenticeship
Bureau of Labor Standards
Bureau of Labor Statistics
Bureau of Veterans' Readjustment Rights
U.S. Employment Service, including Veterans' Employment Service (to Federal Security Agency, July 1, 1948)
Wage and Hour and Public Contracts Divisions
Women's Bureau

Secretary of Labor: Maurice J. Tobin (apptd. Aug. 13, 1948) to succeed Lewis B. Schwellenbach (died June 10, 1948). See articles on CONSUMERS' COOPERATIVES; LIVING COSTS AND STANDARDS.

LABOR CONDITIONS. Peacetime employment reached an all-time high in the United States during 1948. Wage rates and hourly earnings likewise reached the highest levels in history. It was also a year of increased industrial peace in the United States, as strikes and man-hours lost through work stoppages continued to decline. In Canada, a similar decrease in strikes and increases in wages and earnings took place. Great Britain, too, saw increases in wages and earnings, although strikes increased somewhat during the early part of the year.

Employment and Unemployment. A record high in peacetime employment in the United States was reached in July of 1948. In that month, the total number of persons employed reached 61,615,000, an increase of over 2 million over August, 1947. In September, 1948, the total civilian labor force was 62,212,000. Of this number, 51,590,000 were employed in non agricultural establishments, while 8,723,000 were employed in agricultural pursuits. Unemployment declined to 1,892,000, slightly less than that reflected in September, 1947.

Employment declined in shipbuilding and in the communications equipment industry. Employment in the aircraft industry, however, increased as that industry began to expand. The employment of women in industry was marked by an increase of approximately 700,000 in September of 1948, as compared with September of 1947.

In Canada, the civilian labor force in August of 1948 declined somewhat, from 5,081,000 in August, 1947, to 5,030,000 in August, 1948. The number of employed persons likewise showed a slight decline from 5,008,000 in August of 1947 to 4,948,000 in August of 1948. Unemployment in-

creased from 73,000 in August of 1947 to 82,000 in August of 1948.

In Great Britain, the total working population in August, 1948, declined to 20,297,000, as compared with 20,430,000 at the end of 1947. Unemployment declined slightly, with 295,000 registered as

ESTIMATES OF THE CIVILIAN LABOR FORCE, U.S.
(Millions of Persons 14 Years and Older)

Labor Market Status	Oct. 1945	Oct. 1946	Oct. 1947	Oct. 1948
Total Labor Force ^a	53.1	59.3	60.9	61.8
Employed ^a	51.6	57.4	59.2	60.1
Non-agricultural Industries.....	42.8	48.8	50.6	51.5
Male.....	27.0	33.9	35.4	36.0
Female.....	15.7	14.9	15.2	15.5
Agriculture.....	8.8	8.52	8.6	8.6
Male.....	6.6	6.67	6.9	6.7
Female.....	2.2	1.85	1.7	1.9
Unemployed.....	1.55	1.95	1.7	1.6
Male.....	0.93	1.54	1.2	1.8
Female.....	0.62	0.41	0.5	0.55

^a Excludes institutional population and armed forces.

Source: U.S. Dept. of Commerce, Bureau of the Census.

unemployed in August of 1948, as compared with 300,000 at the end of 1947. In Japan, the industrial labor force in June of 1948 totaled 17,890,000, of which 5,090,000 were women.

Women Workers. The number of women in the civilian labor force increased by nearly 900,000 between September, 1947, and September, 1948, while the number employed increased by approximately 700,000. Women's average weekly earnings, as reported by the National Industrial Conference Board for 25 selected manufacturing industries, were \$42.13 for July, 1948, as compared with \$38.38 for July, 1947. Average hourly earnings for July, 1948, were \$1.11, and average weekly hours worked were 37.8.

In Japan, women workers represented approximately 28 percent of the industrial labor force. They were enjoying, under the labor standards law, special legal protection, including equal pay for equal work, maternity leave, and limitations on overtime, night work, and hazardous occupations. A Women's and Minor's Bureau has been set up in the Labor Ministry.

Child Labor. The employment of children and young persons 14 through 17 years of age remained at about the same level as in 1947. About the same number of young people were employed in April, 1948, as in April, 1947, 2,040,000 for 1948, as contrasted with 1,970,000 for 1947. By October, 1948, almost 1 in 5 of boys and girls 14 and 15 years old were employed, and more than 1 in 3 of those 16 and 17 years old.

Findings of inspections for compliance with the child labor provisions of the Federal Fair Labor Standards Act for the fiscal year 1948 (that is, ending June 30, 1948), show some reduction from 1947 in the number of establishments found in violation and the number of minors illegally employed. One in every 20 establishments covered by the law were found to have violated the child labor provisions of the law (1,384 out of 28,998). In such plants, 1 out of every 6 employed minors under 18 was found to be illegally employed, or a total of 4,628 out of 26,678. Extremely high percentages of violation were found in sawmills, planing mills and plywood mills, as well as in fruit and vegetable packing sheds.

Kentucky and Virginia established a basic minimum age at 16 for general employment, established a maximum 40-hour work week for boys and girls up to 18 years of age, and increased restrictions upon work outside school hours and night work for minors.

Wages and Working Hours. A new all-time peak in factory earnings in the United States was reached in July, 1948, when gross average hourly earnings reached \$1.33, and weekly earnings amounted to \$53.08. This compares with an average hourly rate of \$1.23 for July, 1947, and average weekly earnings of \$48.98 in the same month. These increases reflected the so-called "third round" of postwar wage increases. As in 1947, there was no uniformity in wage developments. In some industries, increases in wage rates of about 13 cents per hour were characteristic. This was true of the steel and automobile industries.

In other industries, the amounts of increases varied. In the bituminous coal industry, the 1948 agreement provided for a wage increase of \$1.00 per day, and an increase in payments into the welfare and retirement fund from 10 cents to 20 cents per ton of coal mined. Operating employees in the railroad transportation industry received wage increases of 10 cents per hour. In the meat packing industry, the basic average settlement was 9 cents per hour.

Average weekly hours worked in the United States were 39.9 in July, 1948, substantially identical with that found in July, 1947.

Widespread attention was directed to the wage settlement between the General Motors Corporation and the United Auto Workers (CIO), on May 25, 1948, providing for an immediate wage increase of 11 cents per hour, affecting some 225,000 auto workers. The wage clause provided for an immediate cost of living adjustment of 9 cents per hour, and an annual improvement factor, or standard of living adjustment, of 3 cents per hour. It was further agreed that quarterly adjustments, downward or upward, in wages should be made, based upon the movement of the Consumers' Price Index.

Under this arrangement, for each increase of 1.14 points of the index, wages would be adjusted by 1 cent an hour. No limit was placed upon the upward wage adjustments which may be authorized owing to subsequent increases in the cost of living. A limit, or "floor," was imposed as regards wage reductions, however, at 5 cents an hour.

In Canada, weekly earnings in manufacturing in July, 1948, reached \$38.81, as compared with \$36.45 for July, 1947. Average hourly earnings rose almost 11 cents per hour to 91.4 cents, as

AVERAGE HOURS AND EARNINGS OF FACTORY WORKERS IN THE U.S. BY SELECTED MONTHS 1941-1948

Month and Year	Weekly Hours	Hourly Earnings	Weekly Earnings
January, 1941.....	39.0	\$.68	\$26.64
January, 1942.....	41.7	.80	33.40
January, 1943.....	44.2	.92	40.62
October, 1943.....	44.4	.96	42.76
January, 1944.....	45.2	1.00	45.29
October, 1944.....	45.6	1.03	46.98
January, 1945.....	45.4	1.05	47.52
October, 1945.....	41.6	.98	41.02
January, 1946.....	41.1	1.00	41.27
October, 1946.....	40.4	1.13	45.68
January, 1947.....	40.6	1.16	47.10
October, 1947.....	40.5	1.26	50.98
January, 1948.....	40.5	1.29	52.14
October, 1948.....	39.9	1.37	54.50

Source: U.S. Bureau of Labor Statistics.

compared with 80.8 cents in July, 1947. Average hours of work remained at approximately 42 per week, as in July of 1947.

In Great Britain, wage rates for all workers by August, 1948, had increased 6 percent over June, 1947. Average weekly hours worked showed little change, 45.3 in April, 1948 (45.2 in Oct., 1947).

The year saw the introduction of a new wage policy by the British government. In February of 1948, the Government issued a "White Paper," which stated, among other things, that in the future wage increases would not be taken into account in allowing increases in prices, except by special agreement, in advance, with the Board of Trade. It was also stated that no further general increases in the level of personal incomes would be granted without at least a corresponding increase in the volume of production.

Strikes. Interruptions to industrial peace in the United States continued to decline in 1948. For the first ten months of 1948, approximately 2,950 stoppages, involving 1.8 million workers and a loss of about 30.2 million man-days took place. This compares with 3,396 stoppages involving 2,080,000 workers and a loss of approximately 33.1 million man-days for the same period in 1947.

Perhaps the most serious strikes during 1948 were those involving West and East Coast maritime workers. Approximately 28,000 West Coast dock workers and seagoing personnel went on strike on September 2, upon termination of an 80 day anti-strike injunction issued under the Labor Management Relations Act of 1947. The issues in dispute involved wages and the union hiring hall. The unions involved in the strike were the International Longshoremen's Union, Marine Cooks and Stewards (CIO), Marine Engineers' Beneficial Association (CIO), Marine Firemen, Oilers, Water Tenders and Wipers, and a radio officers' union.

The strike was finally settled in November, after 85 days, upon the basis of a 3-year contract granting an increase in hourly wage rates of 15 cents per hour, a welfare fund, increased vacations, and other fringe benefits. It was agreed to continue the hiring hall in effect pending a court decision as to its validity.

The East Coast strike began in November, involved 15,000 (AFL) dock workers, and was settled after 18 days, with the grant of 13 cents per hour wage increase, a welfare fund, increased vacations, and other benefits.

On March 16, 100,000 packing workers, members of United Packing House Workers of America (CIO), went on strike to enforce demands for a 29 cent wage increase, despite the prior appointment of a presidential board of inquiry. About half of the approximately 100 plants affected by the stoppage were operated by the large meat packers, Swift, Armour, Wilson, Cudahy, and Morrell. There were scattered incidents involving violence between pickets and non-strikers. The board of inquiry reported that an employer offer of a 9 cent hourly wage increase was "substantial." On May 21, the union accepted a 9 cent hourly wage increase, and the strike was called off in 3 companies. Subsequent settlements were reached with other packers.

On March 15, a strike began in the bituminous coal industry over the failure of the trustees of the welfare fund to reach an agreement upon pension payments. A presidential board of inquiry was appointed to investigate the dispute. On April 3, the Attorney General obtained a temporary restraining order instructing the union to order the soft-coal miners back to work, and directing both parties to resume collective bargaining in an effort to settle the pension dispute.

Subsequently, fines of \$1.4 million were assessed against the United Mine Workers of America and \$20,000 against its president, for failure to comply with this order of the court. By April 26, most of the miners returned to work, pursuant to instruc-

tions from the union president. The pension dispute was subsequently settled by an agreement by a majority of the board of trustees to grant pensions of \$100 per month to qualified members of the union after 20 years of service in the mines, and after such members had reached the age of 62.

A stoppage involving nearly 15,000 workers at the Boeing Airplane Company plant in Seattle was begun on April 22, involving members of the International Association of Machinists. The strike was ended on September 10. In November, the National Labor Relations Board issued an order requiring the company to bargain with the union.

In Canada, strikes likewise showed a substantial decline over 1947. During the 8 month period from January through August, 1948, there were 104 strikes and lock outs, involving 29,383 workers, with a loss of 657,950 working days, as compared with 157 strikes for the same period in 1947, involving 66,798 workers and a loss of 1,581,319 working days.

In Great Britain, on the other hand, while the number of workers involved in strikes declined, there was an increase in the number of strikes and the amount of time lost due to such strikes. For the first 8 months of 1948, there were 1,277 strikes, involving 354,300 workers, with a loss of 1,728,000 man-days. This compares with 1,174 strikes, involving 428,400 workers, with a loss of 1,610,000 man-days for the same period in 1947.

In France, the series of politically inspired strikes which began in the latter part of 1947 continued into 1948. The most serious of these involved a work stoppage in the coal mines by the Communist led General Confederation of Labor on October 2, and was called off, after eight weeks, on November 27.

STRIKES IN U.S., CANADA, AND GREAT BRITAIN 1941-1948

Country and Year	Strikes	Workers Involved	Man Days Idle
<i>United States*</i>			
1948*	3,300	1,950,000	34,000,000
1947.	3,700	2,170,000	34,000,000
1946	4,585	4,600,000	110,000,000
1945	4,600	3,325,000	35,000,000
1944	1,766	2,115,000	8,721,000
1943	3,752	1,980,000	13,500,000
1942	2,968	840,000	4,180,000
1941	4,288	2,350,000	23,000,000
<i>Canada^b</i>			
1948*	114	39,439	879,406 ^d
1947.	219	77,995	2,422,332
1946	228	139,474	4,600,000
1945	182	90,509	1,478,311
1944	189	77,700	502,000
1943	402	218,400	1,040,000
1942.	354	114,000	450,000
1941	231	87,000	434,000
<i>Great Britain^c</i>			
1948*	1,658	411,000	1,912,000 ^d
1947.	1,721	622,000	2,433,000
1946.	2,191	525,000	2,100,000
1945.	2,282	530,000	2,830,000
1944.	2,185	800,000	3,700,000
1943.	1,785	657,000	1,810,000
1942.	1,303	457,000	1,530,000
1941.	1,251	300,000	1,080,000

* Preliminary subject to revision. ^a U.S. Bureau of Labor Statistics. ^b Canadian Labor Gazette. ^c British Ministry of Labor Gazette. ^d Through November of 1948.

Labor Movements. In the United States, the AFL and the CIO held national conventions in November of 1948.

The 67th Convention of the AFL was held at Cincinnati, Ohio, November 15-22. Resolutions were adopted recommending repeal of the Taft-Hartley Law and the restoration of the Wagner Act; supporting federal aid to education; the Marshall Plan; a military alliance against the Soviet

Union; recognizing labor's responsibility for the economic health, safety, and welfare of the nation; and recommending an increase in the minimum wage to \$1 per hour.

The CIO held its 10th Convention at Portland, Ore., from November 22-28. The Convention adopted a resolution favoring further wage increases, which was generally interpreted as signifying an attempt to initiate a "fourth round" of upward wage adjustments. The Convention also adopted resolutions recommending the repeal of the Taft-Hartley Law and the substitution of the Wagner Act; an extension of civil rights; the institution of an anti-inflation program, including a roll-back of prices; the imposition of price controls on commodities which basically affect the price of living; rationing and control of consumer credit; and adopted a resolution condemning the foreign policy of the Soviet Union.

The 31st International Labor Conference was held in San Francisco, June 17-July 10, 1948. The Conference adopted a convention guaranteeing the right of workers and employers to establish and join organizations of their own choice without interference. The subject of freedom of association guaranteed by that convention had been considered by the ILO as the result of a resolution by the Economic and Social Council of the United Nations. The Conference also adopted a convention establishing standards for national employment services, and conventions dealing with night work of women and young persons.

The 80th annual Trades Union Congress was held at Margate, England, on Sept. 6, 1948, and for the four following days. The approximate membership represented was 7,791,000. This represents an increase of approximately 251,000 over 1947. Resolutions were passed declaring the determination of the Congress to expose and defeat those elements in the trade union movement whose activities would result in undermining progressive social, economic, and industrial advance, presumably the Communists.

In Japan, under the influence of the liberal labor legislation enacted by the Japanese Diet, the organization of workers increased the total number of organized employees to 6,636,710, or approximately 37 percent of the industrial labor force.

The Chinese Federation of Labor was established at the National Labor Conference at Nanking, Apr. 18-22, 1948. There were 173 delegates present from 20 provincial general unions, 10 municipal general unions, and 6 national federations of industrial unions, representing, in all, 5,493,705 members. Resolutions were adopted condemning the Trade Union Act of 1947 as repressive; recommending extension of the principle of fixing wages relative to the cost of living; the improvement of workers' education and the establishment of a Labor College.

In Latin America, two rival labor confederations held meetings in 1948. The Latin American Confederation of Labor, founded in 1938, held its third meeting, in Mexico City. In attendance were delegates from 28 labor organizations in 13 Latin American countries and Puerto Rico. The membership eligibility status of several Mexican labor organizations was considered. Resolutions passed at the Congress condemned the trade charter concluded at Havana and the Marshall Plan, and recommended industrialization of Latin America.

The Inter-American Confederation of Workers was organized at Lima, Peru, in January, 1948. There were present 143 delegates from 13 Latin American countries. The conference call issued by

the Chilean Confederation of Labor asserted that the Latin American Confederation of Labor is under the domination of a president serving the political objectives of the Communist Party. The new organization will coordinate the efforts of workers to seek better working conditions through ILO conventions, and will strive for the incorporation in the constitution of the American nations of clauses dealing with freedom of association, the right to strike, maximum hours, and collective agreements.

Labor Legislation. There was relatively little new labor legislation enacted in 1948. In the United States, a new draft law designed to meet the manpower requirements of the armed forces was enacted. The law makes men 19 to 25 years of age liable for military service for a period of 21 months, and permits the enrollment for one year of 181,000 18-year olds. Exemptions are provided on grounds of previous military service, membership in reserve units, dependency, and occupation.

The Canadian Parliament enacted the Industrial Relations and Disputes Investigations Act, effective as of Sept. 1, 1948. This act repeals the Industrial Disputes Investigation Act which was first passed in 1907, and replaces the wartime Labour Relations Regulations (P.C. 1003).

The general framework of the I.D.I. Act is retained, including the prohibition of a strike or lock-out until conciliation has been tried, and, where conciliation fails, until the causes of the dispute have been investigated and a report made to the Minister of Labour. It incorporates, also, the principles of the wartime regulations requiring an employer to bargain with the representative of a majority of its employees when organized in a trade union. Administrative machinery is provided to implement the provisions of the law.

Court Decisions. Few important labor cases reached the United States Supreme Court in 1948. Considerable interest was aroused, however, by the decision of the United States Supreme Court in *Bay Ridge Operating Co. v. Aaron et al*, wherein the Court held that premium payments to longshoremen at 1½ times the regular daytime rate for night, week-end, holiday, and meal-period work constituted part of the regular rate of pay, and hence could not be included in overtime compensation due under the Fair Labor Standards Act.

The contracts which the longshoremen had signed with their employers contained a provision that employees are to be paid time and one-half for work done before 8:00 a.m. and after 5:00 p.m., and on Saturday afternoons, Sundays, and holidays. The longshoremen claimed that this premium pay for work outside the regular contract hours should be treated as part of the straight-time rate for the purpose of computing overtime pay after 40 hours of work in a week. Their contention was upheld by the Court.

In *U.S. v. Congress of Industrial Organizations*, the Supreme Court had occasion to consider the limitations contained in Section 304 of the Taft-Hartley Act upon political contributions or expenditures by labor organizations. The CIO and its president were indicted on the ground that the CIO, in its weekly union publication, the *C.I.O. News*, had urged its members to vote for a particular candidate for Congress. The Court held that the law forbidding expenditure of union funds in connection with federal elections was not intended to apply to political articles in regular union periodicals, and dismissed the indictment.

In *National Maritime Commission v. Herzog*, the Supreme Court upheld as constitutional Sec-

tion 9 (f) of the Taft-Hartley Law, which requires labor unions to file financial and organizational data with the Secretary of Labor.

—BERNARD CUSHMAN

LABOR STANDARDS, Bureau of. A Bureau of the U.S. Department of Labor, organized in 1934, authorized to develop desirable labor standards, promote sound labor legislation, develop industrial safety programs, promote Federal-State cooperation, and participate in international labor programs; promotes public support for the employment of otherwise qualified but physically handicapped workers, and performs the functions of the Secretary of Labor under the Labor Management Relations Act, 1947, pertaining to the filing of organizational and financial data by labor organizations. Director: William L. Connolly.

LABOR STATISTICS, Bureau of. A Bureau of the U.S. Department of Labor, established in 1884, charged with the duty of acquiring and diffusing information on subjects connected with labor. Information is issued in special bulletins and in the *Monthly Labor Review*. Commissioner: Ewan Clague.

LABRADOR. A dependency of Newfoundland, occupying the most easterly portion of North America. Area: 110,000 square miles. Population (1946 est.): 5,000. Capital: Battle Harbour. Fishing is the principal industry. Large deposits of high-grade iron ore exist near the headwaters of the Grand River.

LACROSSE. The United States Intercollegiate Lacrosse Association played its biggest schedule in history in 1948, after adding three members in Colgate, the University of Virginia, and Kenyon College. The Wingate Memorial trophy, symbolic of the championship, was retained by Johns Hopkins University, and the titleholders' captain, Brooke Tunstall, won the Jack Turnbull memorial plaque as the year's outstanding player.

A feature of the season was the North-South All-Star game at Baltimore in June, the North winning by 11-6. The United States open champion was Mount Washington, although the same team was the victim of the year's biggest upset when it lost to Army, 5-2.

Rensselaer Polytechnic Institute's team toured England, the highlight of the trip coming on August 5 at Wembley when the United States athletes battled to a 5-5 tie with an All-England ten in a demonstration game in the Olympic Stadium.

Honors in the women's national tournament were won by Philadelphia.—THOMAS V. HANEY

LAND MANAGEMENT, Bureau of. An office established in the United States Department of the Interior on July 16, 1946, through the consolidation of the General Land Office and the Grazing Service, in accordance with the provisions of the President's Reorganization Plan III of 1946.

The major objective of the Bureau is the rendering of faster and better service in the handling of problems involving the land and resources on approximately 778 million acres of Federal public domain in the United States and Alaska, through the maintenance of administrative regions with headquarters in Albuquerque, N. Mex.; Billings, Mont.; Portland, Ore.; Salt Lake City, Utah; San Francisco, Calif.; and Anchorage, Alaska.

The scope of the Bureau's responsibilities includes the survey, management, and disposal of the public lands and the resources therein; the ad-

ministration of grazing on 153,000,000 acres of Federal range in ten western States; the maintenance of the only official cadastral engineering service; the adjudication of all claims to public lands; the issuance of land patents; and the maintenance of 17 land offices in the western part of the United States and Alaska. Director: Marion Clawson.

LAND UTILIZATION, Office of. The Office of Land Utilization is charged, under Administrative Order 1466, dated Apr. 15, 1940, with the responsibility of coordinating and integrating the land use and land management activities of the several bureaus and agencies of the Department; the establishment and development of sound forestry practices; the general administration of the soil and moisture conservation work; the maintenance of cooperative relations with Federal, State, and private agencies concerned with the protection, conservation, and prudent use of the lands and natural resources of the United States and Alaska. The Office of Land Utilization acts in a staff capacity for the Water Resources Subcommittee, which committee is charged with coordinating the water-development programs of the Department.

The Office is divided into four branches: the Branch of Forest Management; the Branch of Soil and Moisture Conservation and Range Management; the Branch of Lands; and the Branch of Budget and Finance. It is directed by Lee Muck, Assistant to the Secretary.

The Office of Land Utilization, since its creation in 1940, has proceeded on the theory that the application of the fundamental principles of coordination and cooperation in the field of natural renewable resource management can be effected without overlapping or duplication and without interfering with the administrative authorities of the Bureaus operating in the various functional fields. It has earnestly sought to promote a unification of action directed towards a common goal through cooperative efforts, the dissemination of information, and the rendering of efficient advisory service. The procedures established in this connection were fully crystallized during the year 1948, and the cooperative principles applied were productive of highly effective results in the field of natural resource conservation.

LATIN AMERICAN ART. The large Pan American Exhibition held in Caracas, Venezuela, in February, 1948, during the celebration of the inauguration of Rómulo Callegos as that nation's new president, was a fitting opening of the year's activities in Latin American art. The Pan American Union in Washington, D.C., organized the show with the cooperation of New York's Museum of Modern Art, from whose permanent Latin American collection many of the works on display were borrowed. Among the nations represented by works of their foremost artists were Brazil with Cândido Portinari; Uruguay with Pedro Figari and Joaquín Torres-García; Argentina with Aquiles Badi, Emilio Pettoruti, and Raquel Forner; Chile with Israel Roa and Roberto Matta; Ecuador with Eduardo Kingman; Colombia with Luis Alberto Acuña and Gonzalo Ariza; and the United States with Darrel Austin, Stuart Davis, Robert Motherwell, and Arthur Osver.

Other artists and countries represented were Carlos Mérida of Guatemala; Rodrigo Peñalba of Nicaragua; Jaime Colson of the Dominican Republic; Cundo Bermúdez, Mario Carreño, Amelia Peláez, Felipe Orlando, and Martínez-Pedro of

Cuba; Gabriel Alix, Philomé Obin, and Louverture Poisson of Haiti; while Mexico was represented by José Clemente Orozco, Diego Rivera, Rufino Tamayo, and, among her younger artists, Raúl Anguiano and Chávez Morado. Venezuelan painters whose works were included were Armando Reverón, Héctor Poleo, and Alejandro Otero. At the same time that the above-mentioned exhibition was being held in the Museum of Fine Arts in Caracas, a Venezuelan exhibit entitled "Three Centuries of Venezuelan Painting" was being shown in another wing of the same building.

By taking such steps as sending her young artists abroad to study, and promoting exhibits of their work at home, Venezuela has in recent years not only become very active but also achieved a new significance in the field of art. One of the most important and fruitful measures taken by the Government of Venezuela in encouraging the nation's artists was the organization of the Taller Libre de Pintura; a center where young artists might work unhindered and develop their talents in freedom from strict academic guidance. In September, just three months after the center was founded, some of the work produced by its members was exhibited, giving public recognition to the artists Mario Abreu, Luis Guevara, Rafael Rivero, Mateo Manauera, and others representing the most progressive trends in art.

Of special significance in art circles in Argentina, one of the most active nations in the field of Latin American art, was the Thirty-Eighth National Salon of Fine Arts, which awarded its first prize to the well-known painter J. C. Castagnino, and its second to Luis Borraro. Examples of the work of Castagnino, as well as that of Héctor Basaldúa, Norah Borges, Raquel Forner, Raúl Soldi, and Demetrio Uruchúa, appeared in an exhibit, of "Watercolors and Drawings by Argentine Artists," circulated throughout the United States by the Pan American Union. This show was on display in the Pan American Union in June. Also during 1948, the Museo Provincial "Rosa Galisteo de Rodríguez" in Santa Fe, one of the most prominent art museums in the interior of Argentina, held its Twenty-fifth Annual Salon and awarded the first prize for painting to Eugenio Daneri; for sculpture to Nicolás de San Luis.

The Eleventh Salon of Plastic Arts in Uruguay gave its first three prizes to Eduardo Amézaga, Carmelo Arzadum, and Edgardo Rubeiro, all of whom are significant figures in Uruguayan art. Artists of both Uruguay and Argentina were represented in the exhibition "100 Years of Art of the Rio Plata" which was held early in the year at the Municipal Museum of Buenos Aires.

In Panama, the work of a young revolutionary group, among whom are Victor Garibaldi, Jorge Castillo, Rafael Pérez Molina, and Gloria Cohen de Pérez, has this year brought that country into prominence in the field of modern art for the first time. The same group, which works under the tutelage of Ricardo J. Bermúdez, Professor of Architecture at the University of Panama, held an exhibit in May at the university. Nonobjective in nature, the show resulted in much controversial discussion in the capital.

The Casa de la Cultura Ecuatoriana in Quito, Ecuador, organized an exhibit which was held in November in the National School of Fine Arts in Mexico City. The show featured prominent Ecuadorean artists including Oswaldo Guayasamín, Eduardo Kingman, Diógenes Paredes, Leonardo Tejada, and others.

The Haitian Art Center opened in New York in

October with an exhibit of a new group of primitive paintings brought from Haiti. The show was presented the following month at American University in Washington, D.C. The new Center, which will publicize Haitian primitive painting, is a branch of the institution of the same name in Port-au-Prince.

Cándido Portinari, one of Brazil's foremost artists, completed his mural entitled *The First Mass* for a new building in Rio de Janeiro designed by Oscar Neimeyer, who recently served as consultant on the plans for the United Nations building in New York. Lithuanian-born Lasar Segall, who is a Brazilian citizen and one of his adopted country's most famous modern painters, held his first one-man show in the United States this year, at which time were shown the most outstanding works he has completed in the last twenty years. Segall presented his paintings in the Associated American Artists Galleries in New York and in the Pan American Union before going to Europe where he expects to hold several exhibitions in 1949.

The most controversial issue to arise in Latin American art circles in 1948 was that produced by the Diego Rivera mural in Mexico City's new Hotel del Prado. Completed at the end of 1947, this painting with its sentence "God does not exist," has been the cause of violent discussion, and the Archbishop of Mexico refused to give the hotel his official blessing. The controversy spread throughout this hemisphere and culminated in a ruling by the Department of National Property of the Republic of Mexico to the effect that the painting in question could be neither altered nor removed since all Mexican murals, whether in official or private buildings, are the property of the State.

José Clemente Orozco, master of modern Mexican art, undertook for the first time a work of abstract form when he did a mural in cement in the open-air amphitheater of the Normal School in Mexico City. For this mural, which he completed by the middle of the year, he used ethyl-silicate as a plastic substance, adding glass fragments to catch the reflection of natural light. Earlier in the year Orozco executed a mural for the National Museum of Chapultepec, in honor of Benito Juárez, Mexican hero and statesman.

The work of another outstanding artist of Mexico, Rufino Tamayo, appeared this year in an exhibition in the Palace of Fine Arts in Mexico City. For a long time Tamayo has been held in a position of prominence in the United States, but the aforementioned exhibition was the first official recognition Mexico has given the importance of his work in that nation's art of today.

In November of 1948 an exhibit entitled "Three Contemporary Mexican Painters" was presented in the Dallas Museum of Art. This exhibit was organized by the Gallery Mont-Orendain of Mexico and featured the work of Diego Rivera, Rufino Tamayo, and David Alfaro Siqueiros.

Newly formed in Havana is the APEC (Agrupación de Pintores y Escultores Cubanos) whose members include some of the most outstanding figures in the plastic arts of Cuba: Wifredo Lam, Amelia Peláez, Mario Carreño, Fidelio Ponce, Carlos Enriquez, Cundo Bermúdez, Mariano, Felipe Orlando, René Portocarrero, and Roberto Diago among the painters; Alfredo Lozano, Roberto Estopiñán, and Marta Arjona among the sculptors. The new organization plans to get official and public recognition of the work done by its members, who for a long time have enjoyed prestige abroad but who have not yet received any support from their own government.

Latin American activities in the field of art in 1948 terminated in December with the showing in the Pan American Union of a large exhibition entitled "Some Religious Paintings of Latin America." With the loan of six magnificent paintings of the Cuzco School in Peru, of the 17th century (belonging to the Brooklyn Museum), of two excellent examples of the Mexican School of the 18th century (lent by the Philadelphia Museum of Art), of two very valuable works of the Quito School (lent by the Ecuadorean Embassy in Washington), and of other beautiful paintings lent by private collectors, this exhibit was a representative showing of the various trends in religious art from the days of the Conquest to the middle of the 19th century in Ecuador, Guatemala, Mexico, Peru, and Venezuela.

—JOSÉ GÓMEZ SICRE

LATIN AMERICAN LITERATURE. The revised edition of Dudley Fitts' *Anthology of Contemporary Latin American Poetry* makes available again to English-speaking readers a comprehensive and indispensable guide to recent Latin American poetry, with English translations facing the original Spanish, Portuguese, or French. Harriet de Onís' *The Golden Land* is an anthology of Latin American folklore in literature, with selections from 44 writers and four centuries of literature based on native themes.

The most important new publishing venture in Latin America is the Biblioteca Americana, a series of studies published by the Fondo de Cultura Económica in Mexico City, whose Colección Tierra Firme has been noted in previous articles in the YEAR BOOK. The first five volumes of the new series, which will be devoted to classic works of literature, are the *Popul Voh*; José Couto's *Diálogo sobre la historia de la pintura*; Ramón Iglesias' edition of Fernando Colón's *Vida del Almirante Don Cristóbal Colón*; Lucio Mancilla's *Una excursión a los indios ranqueles*; and José Joaquín Olmedo's *Poesías completas*.

Argentina. Among the outstanding novels of the year are Guillermo House's *El último perro*, a novel of gaucho life that has been compared to the classic work in this field, *Don Segundo Sombra*; Arturo Capdevila's *Advenimiento*, a religious novel laid in Chile; Raúl Larra's *Gran Chaco*, a novel of social protest, laid in the semitropical north of Argentina; Bernardo Verbitsky's *En esos años*, a skillful portrayal of postwar world conditions; *El vínculo*, *Los Rembrandts*, *La rosa de Cernobbio*, three short novels by Eduardo Mallica, one of the great contemporary Latin American novelists. Two volumes of short stories are worthy of special note: Julio Aramburu's *La centella de fuego*, graceful, concise stories of provincial life; and Gabriel Casaccia's *El pozo*, tales of mystery and emotion.

A distinguished addition to the available works on Domingo Faustino Sarmiento (1811-88), Argentina's great educator and president, is *A Sarmiento Anthology*, selected and edited by A. W. Bunkley and published by the Princeton University Press. *Escritores iberoamericanos de 1900* is a volume of reminiscences on Rubén Darío, Amado Nervo, Rufino Blanco Fombona, and other famous literary figures of the period, written by their great contemporary, Manuel Ugarte. José Luis Lanuza's *Morenada* is a volume of essays and sketches about the Negroes of Buenos Aires. *Filosofía de ayer y de hoy* is a series of articles on thinkers of the 19th and 20th centuries by the illustrious Argentine philosopher, Francisco Romero. Bernardo González Arri's *Belgrano* is a definitive biography of Manuel

Belgrano, one of the leaders of Argentine independence.

Among noteworthy volumes of poetry are María Elena Walsh's *Otoño imperdonable*, which shows a fresh and sure poetic imagination; Miguel Etchebarne's *Solloquio*, a tender and meditative collection of sonnets; Alfredo Roggiaro's *El río iluminado*, sonnets that are skillfully though somewhat rhetorically fashioned; Reginaldo Martín Zorrilla's *En mi campiña*; Jorge Perroue's *Romances de la aldaba*, a ballad collection; Juan Ortiz's *El álamo y el viento*, delicate lyrics about the landscape and people of the province of Entre Ríos; *Tiempo cautivo*, a collection of poems written since 1928 by Rafael Alberto Arrieta, a major poet of serene and lyric beauty.

Bolivia. *La poesía quechua* is a survey of the poetry of the Andean Indians by Jesús Lara, the well-known novelist and poet, who has also published a collection of original poems: *Paucarcara, poemas quechuas*. Noteworthy also are two volumes of verse by Reinaldo López Vidaurte: *La senda perdida, poemas en prosa*, and *Cumbres de oro*.

Brazil. *Marvellous Journey* is an enthusiastic introduction to four centuries of Brazilian literature by Samuel Putnam, the foremost authority on the subject in the United States. Érico Veríssimo's *A volta do gata preto* is a sprightly account of the author's two year residence in the United States as guest lecturer on Brazilian literature in several colleges and universities. Cassiano Ricardo's *Um dia depois do outono* is a collection of verse filled with music and mysticism. *Poemas, sonetos e baladas* is written by Vinicius de Moraes, one of the most brilliant exponents of orthodoxy in modern Brazilian poetry.

Chile. The outstanding novel of the year is Marta Brunet's *Humo hacia el sur*, the dramatic story of a domineering woman's losing fight against progress. María Luisa Bombal's *La amantada*, a strikingly successful impressionistic novel, appeared in English translation as *The Shrouded Woman*. *Alma y cuerpo de Chile* is a group of essays on the Chilean people and countryside by the famous novelist, Luis Durand.

Viajes al corazón de Quevedo; *Por las costas del mundo* are collections of articles on travel and on Spanish literature by Chile's greatest poet, Pablo Neruda, whose *Tercera residencia*, the third part of his *Residencia en la tierra*, rounds out one of the major works of 20th century poetry. Humberto Díaz Casanueva's *La estatua de sal* contains four long poems of unusual merit and perfection of form. Arturo Torres Ríos's *Elegías* are deeply moving lyrics in perfect poetic form by the celebrated Chilean poet who teaches Spanish American literature at the University of California. The death of Vicente Huidobro removes from the Chilean literary scene one of its most stimulating and exasperating *avant-garde* poets.

Colombia. Ramón Manrique's *La venturosa* is a novel of colonial times and local customs. Jesús Botero Restrepo's novel *Andaguéla* is based on the author's experiences among the Indians of this region. Manuel Zapata Olivella's *Tierra mojada* is a remarkable first novel, tough and realistic in style, proletarian in point of view.

Outstanding in prose non-fiction are *Rubén Darío y otros poetas*, essays by the distinguished poet and critic, J. B. Jaramillo Mesa; Andrés Bello's *La poesía inconclusa y otros ensayos*, essays on Colombian poets; *Aspectos de la cultura en Colombia*, essays by the famous literary historian, Guillermo Hernández de Alba; and a biography of

Bolívar by Jorge Ricardo Vajarano that Germán Arciniegas considers the best book of the year. Arciniegas has written an introduction for Octavio Quiñones Pardo's *Interpretación de la poesía popular*, a stimulating study of folk poetry. Miguel Rash Isla's *Sonetos* contains the collected poems of a deservedly popular poet.

Costa Rica. *Manglar* is a psychological novel about a teacher in southern Chile, written by a Costa Rican resident of this region, Joaquín Gutiérrez.

Cuba. Two noteworthy volumes of short stories are Enrique Labrador Ruiz's *Carne de quimera*, *novelines neblinosos*, 8 vague, surrealistic stories, tinged with ironic fantasy, and *Cuentos cubanos contemporáneos*, a collection of 18 stories with excellent critical notes by José Antonio Portuondo. Other admirable works of scholarship are Antonio Iraizoz's edition of Enrique Piñeyro's *Notas críticas*, Félix Lizaso's edition of José Martí's *Ideario separatista*, and Chacón y Calvo's edition of *Revisiones literarias*, studies by the great poet, José María Heredia.

El huracán is a study of pre-Columbian symbolism by Fernando Ortiz, Cuba's outstanding ethnographer. The novelist Enrique Serpa has collected a group of his political essays under the title *Presencia de España*. A volume of unusual importance is Cintio Vitier's *Diez poetas cubanos*, a selection from the work of ten contemporary Cuban poets.

Dominican Republic. *Cuentos insulares* is a volume of short stories with social themes by Max Henríquez Ureña. *Seis cuentistas dominicanos*, edited by Miguel Román Pérez Echavarría, contains stories by Manuel Cabral, Sócrates Nolasco, Vega Batlle, Fabio Fiallo, Nestor Caro, and Ismael Abreu. *Historia de la cultura en América* is a revised and expanded Spanish version of Pedro Henríquez Ureña's *Literary Currents in Hispanic America*. The revision, made just before the author's death, is a landmark in the field of Latin American literary and artistic history.

Ecuador. An unusually promising first novel of rural life is *El éxodo de Yangana*, by Angel Rojas, who also wrote *La novela ecuatoriana*, an excellent critical study. *Los animales puros* is a proletarian novel by the well-known poet and dramatist, Pedro Jorge Vera. Three volumes of poetry of unusual merit are González Escudero's *Alta noche*, César Dávila Andrade's *Espacio, me has vencido*, and Hugo Alemán's *De ayer. El visitante de niebla y otros poemas* is the latest work by Ecuador's greatest poet, Jorge Carrera Andrade.

Guatemala. A well-balanced and much needed anthology of Guatemalan short stories is Alfonso Orautes' *Cuentos de Guatemala. Por un caminito así*, a collection of new as well as previously published verse by Guatemala's most distinguished man of letters, Rafael Arévalo Martínez, contains introductory essays by Arturo Torres Ríosco, Santiago Argüello, and Gabriela Mistral.

Mexico. Among the best novels of the year are María Luisa Ocampo's *Bajo el fuego*, which won the Altamirano Prize; *Donde crecen los tepalcates*, a first novel, dealing with Indian witchcraft, by the well-known poet and dramatist, Miguel N. Lira; Francisco Rojas González's *Lola Casanova*, a novel of adventure, laid in a Mexican setting of a century ago, in which the heroine, captured by Indians, becomes their leader; Diego Cañedo's *La noche anuncia el día*, a fantastic novel involving a thought-reading machine and its use by the hero to explore the thinking of political leaders.

Also Rafael Bernal's *Su nombre era muerte*, in

which a misanthrope forsakes the civilized world to find adventure in the jungles of southwestern Mexico; Agustín Yañez's *Al filo del agua*, an extraordinarily good novel of the Mexican Revolution, laid in a town haunted by fear and desire. César Garizurieta's *El diablo, el cura y otros engaños* is an amusing and imaginative collection of tales. *Quetzalcóatl, sueño y vigilia*, is an imaginative re-creation of the legends of the Mayan god by Ermilo Abreu Gómez, one of Mexico's most brilliant intellectuals.

Cien años de novela mexicana is a series of lectures on the novel by Mexico's foremost living novelist, Mariano Azuela. Carlos González Peña's *Mirando pasar la vida* contains nostalgic memories of bygone customs. *A lápiz* and *Grata compañía* are two volumes of articles by Alfonso Reyes, the most highly respected literary critic in Spanish America.

Three additions to a notable literature of published plays are Xavier Villaurrutia's *El pobre barba azul* and Rodolfo Usigli's *El gesticulador* and *Otra primavera*.

Paraguay. Carlos Centurión's *Historia de las letras paraguayas, tomo I, Época precursora y época de formación* is a reference book valuable largely because of our scant knowledge of Paraguayan literature.

Peru. José Gálvez has written a nostalgic account of the passing glories of his native city in *Una Lima que se va*. Luis Alberto Sánchez's *Los poetas de la colonia y de la revolución* is a reprint of the first book by this noted literary historian. *Minúsculas* and *Adoración* contain some of the poetry of Manuel González Prada, one of the great figures in 19th century Peruvian literature.

Salvador. Trigueros de León's *Labrando en madera* is a series of subtle, impressionistic studies of Spanish American poets. The *Sonetos* of Claudia Lars are delicate creations by one of the most famous women poets of Latin America.

Uruguay. Two novels of superior literary merit are Francisco Costa Doldán's *Conjunción* and Manuel Medina Betancort's *Beatriz*. Felisberto Hernández's *Nadie encenderá las lámparas* is a volume of fantastic, fourth dimensional stories. Hugo Barbagelata's *La novela y el cuento en Hispano América* is an informative and valid study of Spanish American fiction.

Noteworthy volumes of poetry are Carlos Denis Molina's *Tiempo de sueño*; Rafael Romano's *Nace un tiempo*, a first work in a variety of styles, written with keen sensibility; Felipe Novo's *Viento desnudo*; Julio J. Casal's *Cuaderno de otoño*, a new volume by an outstanding poet; *Las sombras diáfanas*, a collection of sonnets by one of Uruguay's greatest poets, Carlos Sabat Erasty; *Ariel prisionero*, *Ariel liberado*, a long heroic poem by another great Uruguayan, Sarah Bollo.

Venezuela. Among the outstanding novels are Blanca Rosa López's *En aquellas islas del Caribe*, a first novel by a gifted writer of short stories; José Berti's *Espejismo de la selva*, which deals with life on a rubber plantation; Arturo Uslar Pietri's *El camino de El Dorado*, which won the Arístides Rojas Prize for the best novel of the year. This work is a fictional life of the Spanish conquistador, Lope de Aguirre. Another life of Aguirre is Casto Fulgencio López's *Lope de Aguirre, el Peregrino*.

The field of biography is notably rich this year in Venezuela, with J. A. Cova's *San Martín, Aníbal de los Andes* and Mariano Picón Salas' *Miranda*, which was one of the leading contenders for the Premio Nacional de Literatura. This biennial prize

was awarded to Mario Briceño Iragorri for his *El Regente Heredia o la piedad heroica*, a biography of José Francisco Heredia, one of the forgotten heroes of Venezuelan independence. Another book by Briceño Iragorri is *El caballo de Ledesma*, a collection of beautifully conceived and written essays on various themes. Carlos Brandt's *En el país de Gómez* is a scathing judgment on Juan Vicente Gómez, tyrannical dictator of Venezuela from 1908 to 1935. Andrés Eloy Blanco's *Vargas, el Albacea de la Angustia* is a biography of a leader of Venezuelan independence, written by one of Venezuela's great contemporary poets.

Enrique Bernardo Núñez's *La ciudad de los techos rojos*, a series of sketches of Caracas, was awarded the Premio Municipal de Prosa in 1947. Gilberto Antolínez's *Hacia el indio y su mundo* is a defense of Indian America as opposed to the America of European origin and influence. R. Olivares Figueroa's *Folklore venezolano* is a collection of popular verse by a distinguished poet and critic. Ramón González Paredes' *Samuel* and *Ellos* are two one-act psychological plays, very modern and highly stylized, like those of Pirandello.

In the Juegos Florales Iberoamericanos held in Mexico, the first prize was won by Manuel Felipe Ruzeles for his poem, *Iberoamérica*. The Venezuelan Premio Municipal de Poesía went to Carlos Augusto León for his *Los nombres de la vida*. Other poetic works of unusual merit were Vicente Gerbassi's *Poemas*, Pálmenes Yarza's *Instancias*, J. A. Escalona's *Soledad invadida*, Pedro Pablo Paredes' *Alabanza de la ciudad*, Enrique Castellanos' *Sinfonías terrestres*, José Ramón Medina's *La edad de la esperanza*, and Juan Beroes' *Cantos para el abril de una doncella*.

—DONALD D. WALSH

LATTER DAY SAINTS. A religious body, commonly known as the Mormon Church, organized at Fayette, N.Y., on Apr. 6, 1830, by Joseph Smith. The Bible, the Book of Mormon, the Doctrine and Covenants, and the Pearl of Great Price, are regarded as the word of God.

Church of Jesus Christ of Latter Day Saints. The largest body of Mormons, they believe in the same organization that existed in the Primitive Church, namely, apostles, prophets, pastors, teachers, etc.; also they believe in the gift of tongues, prophecy, revelation, visions, and healing. The church maintains 8 temples devoted to sacred ordinances. Besides the Brigham Young University, the church has 14 collegiate institutes and 102 high school seminaries. Church membership: 1,016,170, presided over by the First Presidency of the Church.

Administrative affairs and the performance of all church ordinances are carried on by the Melchizedek Priesthood, numbering 146,330, assisted by the Aaronic Priesthood, numbering 135,313. Priesthood is held only by male members. Auxiliary organizations include the Relief Society, a woman's organization with 111,843 enrollment; a Sunday School with 444,541 members; a Mutual Improvement Association for young people, with 136,843 members. The church also maintains a Genealogical Society and a Library. The church is divided into units termed Stakes and Wards, numbering 172, and Missions and Branches, numbering 42. Two General Conferences, 4 Stake Conferences, and 1 Ward Conference are held each year. Headquarters: 47 East South Temple St., Salt Lake City, Utah.

Reorganized Church of Jesus Christ of Latter Day Saints. Non-Mormon division of the Latter Day

Saints Church, after the death of Joseph Smith, Jr., established 1852. Headquarters now at Independence, Mo. In the United States there are 633 churches, 8,472 priests, and 136,167 members. Converts in 1947 totaled 3,489. The Church maintains 3 homes for the aged and one hospital. Church property is valued at \$10 million; total income from members (1948) is approximately \$1 million. Headquarters: The Auditorium, Independence, Mo.

LATVIA. A republic in the Baltic, occupied by the U.S.S.R. and incorporated into the Soviet Union, as the Latvian Soviet Socialist Republic, on Aug. 3, 1940. The United States and Great Britain have not recognized Latvia's entry into the Soviet Union. Area: 24,840 square miles. Population (1940): 1,950,000. Chief towns: Riga (capital), 393,211 inhabitants, Leipāja (Libau) 57,098, Daugavpils (Dvinsk) 45,160. Budget estimates (1948): revenue 1,455,100,000 rubles; expenditure 1,443,200,000 rubles. The important agricultural crops are oats, hay, rye, barley, wheat, flax, and sugar beets.

LAW. This review is limited to important developments during the judicial year, 1948, in U.S. Supreme Court decisions, jurisprudence and practice. For discussion of legislation and similar topics, the special title involved should be consulted.

Civil Liberties. In these troubled times the preservation of our basic freedoms and the protection of the individual against unwarranted governmental action, both Federal and State, assume an ever increasing importance. Government must be strong enough to further the legitimate interests of the general public without becoming a police state and destroying our democratic tradition, built upon the dignity and worth of the individual.

On many of the difficult cases that reach the Court thoughtful people, just as the Justices themselves, will often be in sharp disagreement. Fault may be found with one or more decisions. But the Supreme Court has long stood as a champion of the individual against arbitrary and oppressive governmental action; and during the last term its decisions dealing with civil liberties were gratifying.

The Court is probably more, certainly not less, responsive to the ideals of civil liberty than is a representative cross section of the people. Highlighting its current efforts are its decisions in aid of racial minorities such as the Negroes and Japanese. Restrictive covenants aimed at segregating Negroes in urban areas were held non-enforceable. The background of the restrictive covenant is this.

In 1917 the Court in *Buchanan v. Warley*, 245 U.S. 60, invalidated an ordinance of Louisville, providing that Negroes and whites should not live in the same block, partly upon the basis of due process of law and partly in reliance on a civil rights statute stating that all citizens of the United States should have the same right as white citizens to purchase, hold and convey real property. Since, therefore, racial segregation could not be achieved by a municipal ordinance, a group of property owners often resorted to the use of restrictive covenants whereby they agreed that certain types of persons, usually those "not of the Caucasian race" may not purchase or occupy the restricted property.

The legal theory in support of such restrictive covenants was that the Fourteenth Amendment restricts only state action and does not proscribe private or individual discriminations. *Corrigan v. Buckley*, 271 U.S. 323 (1926), supported this view.

In the current restrictive covenant cases a unanimous Court, with three Justices not sitting, held that State judicial action was State action and hence State courts could not enforce covenants excluding Negroes from using or occupying real property by virtue of the Fourteenth Amendment, *Shelley v. Kraemer*, 68 S. Ct. 836; and, although the Fourteenth Amendment is inapplicable to the District of Columbia, a Federal court for that district may not enforce similar restrictive covenants since these are contrary to the public policy of the United States and also are prohibited by § 1 of the Civil Rights Act of 1866, *Hurd v. Hodge*, 68 S. Ct. 847.

By this reasoning the Court avoided overruling the *Corrigan* case, and paradoxically restrictive covenants remain valid but judicially non-enforceable. Although this tenuous distinction may cause future troubles, it probably has no great legal significance. Extra-legal practices on the part of real estate brokers in making sales, of mortgagees in extending credit, and of property owners will continue, of course, to work a practical segregation of Negroes and other racial minorities in city areas until the climate of opinion becomes more tolerant. See Frank, *United States Supreme Court*, 16 U. Chi. L. Rev. 1, 25-26, in relation to Indianapolis; and for a good treatment of the general problem, McGovney, *Racial Residential Segregation by State Court Enforcement of Restrictive Agreements, Covenants or Conditions in Deeds is Unconstitutional*, 33 Calif. L. Rev. 5; 21 So. Calif. L. Rev. 358.

And slowly the Negro is gaining admission into academic halls. Although States are still permitted to refuse Negroes admission to white schools, they are gradually being forced to accord equal educational opportunities to the Negro. Following *Gaines v. Canada*, 305 U.S. 337 (1938), the Court in *Sipuel v. Board of Regents*, 68 S. Ct. 299, ruled that when a properly qualified Negro applied for admission to the University of Oklahoma School of Law, which was the only institution for legal education supported and maintained by Oklahoma tax payers, the Negro petitioner "is entitled to secure legal education afforded by a State institution. . . . The State must provide it for her in conformity with the equal protection clause of the Fourteenth Amendment and provide it as soon as it does for applicants of any other group."

Oklahoma thereupon created overnight a new law school for Negroes and the case was brought back by the Negro to the Supreme Court as *Fisher v. Hurst*, 68 S. Ct. 389, to force compliance with the Court's mandate. In denying this request the Court stood on the technical ground that the record was inadequate to determine the sufficiency of the new law school. Dissenting, Mr. Justice Rutledge stated: "Obviously no separate law school could be established elsewhere overnight capable of giving petitioner a legal education equal to that afforded by the State's long-established and well-known State university law school. Nor could the necessary time be taken to create such facilities, while continuing to deny them to petitioner, without incurring the delay which would continue the discrimination our mandate required to end at once."

Discrimination against Japanese was thwarted in two cases arising under California statutes and involving the right of persons of Japanese origin to own land and to engage in commercial fishing. The first, *Oyama v. California*, 68 S. Ct. 269, involved California's Alien Land Law. This law prohibits an alien, ineligible for citizenship (a eu-

phemism for a Japanese), from acquiring, occupying, or transferring agricultural land; escheats land bought in violation to the State; and provides for escheat if transfers are made with "intent to prevent, evade, or avoid" escheat and that such an intent will be presumed when an ineligible alien paid the consideration for a transfer.

In the case at bar title to the land had been taken in the name of the minor son, an American citizen; the father, a Japanese ineligible for citizenship, had provided the purchase price, and managed the property as the guardian of his son. The Court held that the statute was unconstitutional as applied to the facts of the case because it deprived the citizen-son of the equal protection of the State laws and of his privileges as an American citizen.

Since there was no presumption of invalidity if other Americans received gifts from their fathers, a majority held that a different set of presumptions could not be applied to a minority group of citizens simply because their parents were Japanese. By sustaining the attack upon the statutory presumption the Court did not pass upon other aspects of the Alien Land Law and avoided overruling *Cockrill v. California*, 268 U.S. 258 (1925), which had upheld the statutory presumption of the Alien Land Law where the ineligible alien paid for land and had title put in a stranger's name. Thus technically California might have continued with escheat actions in which citizen-sons were not involved, but the California Attorney General chose not to do so. See 17 Civil Liberties Quarterly 1.

On the basis of the Fourteenth Amendment, *Takahashi v. Fish & Game Com'n*, 68 S. Ct. 1138, forthrightly ruled that California may not bar her foreign-born Japanese from commercial fishing in offshore waters, and hence its statute providing that fishing licenses may not be issued to persons ineligible to citizenship is unconstitutional.

Protection accorded an alien against deportation is a most valuable personal right, for in the words of Mr. Justice Douglas "Deportation can be the equivalent of banishment or exile. . . . The stakes are indeed high and momentous for the alien who has acquired his residence here." In *Delgadillo v. Carmichael*, 68 S. Ct. 10, in which this statement was made, and in *Fong Haw Tan v. Phelan*, 68 S. Ct. 374, the Court denied deportation by construing the immigration statutes in favor of the alien: rejecting in the first case the government's captious interpretation of what constitutes "entry"; and construing in the second case the "repeater" provision narrowly so as to affect only aliens who after one conviction subsequently commit a second crime.

On the other hand a sharply divided Court ruled that the President, acting under the Alien Enemy Act of 1798, could direct the removal from the United States of all alien enemies "who shall be deemed by the Attorney General to be dangerous to the public peace and safety of the United States," and that the Attorney General's order of Jan. 18, 1946, for the deportation of a German alien was not subject to any judicial review aside from questions of statutory interpretation and constitutionality.

Mr. Justice Frankfurter states the majority's conclusions thus: "we hold that full responsibility for the just exercise of this great power may validly be left where the Congress has constitutionally placed it—on the President of the United States. The Founders in their wisdom made him not only the Commander-in-Chief but also the guiding organ in the conduct of our foreign affairs. He who was entrusted with such vast powers in relation to the outside world was also entrusted by Congress,

almost throughout the whole life of the nation, with the disposition of alien enemies during a state of war. Such a page of history is worth more than a volume of rhetoric."

In dissent Mr. Justice Black replied: "But I do not reach the question of power to deport aliens of countries with which we are at war while we are at war, because I think the idea that we are still at war with Germany in the sense contemplated by the statute controlling here is a pure fiction. Furthermore, I think there is no act of Congress which lends the slightest basis to the claim that after hostilities with a foreign country have ended the President or the Attorney General, one or both, can deport aliens without a fair hearing reviewable in the courts."

And Mr. Justice Douglas, also dissenting, refused to delimit the historic writ of habeas corpus to "a more narrow range of judicial inquiry here than in habeas corpus arising out of any other deportation proceeding." Procedural due process requires a fair hearing, and that the order be based upon some evidence. "The notion that the discretion of any officer of government can override due process is foreign to our system." *Ludecke v. Watkins*, 68 S. Ct. 1429, 1435, 1436, 1441, 1442.

At the preceding term a divided Court sustained the action of a New Jersey board of education in providing the same free bus transportation for parochial students as supplied for students attending public schools. *Everson v. Board of Education of Ewing Tp.*, 330 U.S. 1, discussed in last year's review. By comparison, at this term the Court considered and held invalid the introduction of religious education into the public schools of Champaign, Illinois.

Under the system of "released" time, sponsored by the Champaign Council on Religious Education, religious training was offered in the public schools once a week for intervals ranging from thirty minutes to forty-five minutes. If the parent desired his children to attend a particular religious class he so indicated and attendance by his children was then compulsory. Children of parents not so inclined were kept at school and given secular education while the other children were receiving religious instruction.

Mr. Justice Black, who spoke for the majority in the *Everson* case, also spoke for the majority in the current case. "Pupils compelled by law to go to school for secular education are released in part," he stated, "from their legal duty upon the condition that they attend the religious classes. This is beyond all question a utilization of the tax-established and tax-supported public school system to aid religious groups to spread their faith. And it falls squarely under the ban of the First Amendment (made applicable to the States by the Fourteenth) as we interpreted it in *Everson*. . . . Here not only are the State's tax-supported public school buildings used for the dissemination of religious doctrines. The State also affords sectarian groups an invaluable aid in that it helps to provide pupils for their religious classes through use of the State's compulsory public school machinery. This is not separation of Church and State."

Justice Reed, dissenting, felt that the Champaign system of "released" time and the use of the public school building was no more than a friendly gesture between Church and State. Noting the indirect financial aid given to parochial schools in the *Everson* case, and that the National School Lunch Act aids all school children attending tax exempt schools, he further noted that the practices of the government offer examples of aid to religion.

"The Congress of the United States has a chaplain for each House who daily invokes divine blessings and guidance for the proceedings. The armed forces have commissioned chaplains from early days. . . . Under the Servicemen's Readjustment Act . . . eligible veterans may receive training at government expense for the ministry in denominational schools. The schools of the District of Columbia have opening exercises which 'include a reading from the Bible without note or comment, and the Lord's Prayer.' In the United States Naval Academy and the United States Military Academy, schools fully supported and completely controlled by the Federal government, there are a number of religious activities. Chaplains are attached to both schools. Attendance at church services on Sunday is compulsory at both the Military and Naval Academies. . . . both schools since their earliest beginnings have maintained and enforced a pattern of participation in formal worship." He concluded that a State should be given great leeway in dealing with its important social problems, and that devotion to the great principle of religious liberty should not lead us into a rigid interpretation of the constitutional guarantee that conflicts with accepted habits of our people. *McCullum v. Board of Education*, 68 S. Ct. 461, discussed in Owen, *The McCullum Case*, 22 Temple L. Q. 159; *Catholic Bishop's Statement*, N.Y. Tribune, Nov. 21, 1948, p. 36 (sharply critical of the holding).

A decision, having vast political significance to labor during the last election, ruled that labor unions may continue to use union newspapers to advocate a desired course of political action. For the majority, Justice Reed held that use of union funds for such purpose was not an "expenditure" within the meaning of the Federal Corrupt Practices Act as amended by the Taft-Hartley Act. Four Justices concurring in the result interpreted the statute to forbid the activity but held the statute unconstitutional. *U.S. v. C.I.O.*, 68 S. Ct. 1349.

In the field of criminal prosecution a statute denouncing conduct as criminal must not invade the defendant's basic rights, such as freedom of speech, must be sufficiently definite to apprise the defendant of the conduct made criminal, must prescribe the penalty, and the accused must be convicted of the crime charged. Thus a penal ordinance, forbidding the use of sound amplification devices except with permission of the chief of police, invades the basic right of freedom of speech. "We hold that [the] . . . ordinance is unconstitutional on its face," said Mr. Justice Douglas, "for it establishes a previous restraint on the right of free speech. . . . To use a loud-speaker or amplifier one has to get a permit from the Chief of Police. There are no standards prescribed for the exercise of his discretion. The statute is not narrowly drawn to regulate the hours or places of use of loud-speakers, or the volume of sound. . . . Any abuses which loud-speakers create can be controlled by narrowly drawn statutes. . . . The power of censorship inherent in this type of ordinance reveals its vice. Courts must balance the various community interests in passing on the constitutionality of local regulations of the character involved here. But in that process they should be mindful to keep the freedoms of the First Amendment in a preferred position." *Sala v. New York*, 68 S. Ct. 1148. New York Penal Law § 1141, as interpreted by the State Court of Appeals, made criminal the distribution of a book, magazine, or newspaper principally made up of criminal news of bloodshed and lust so "as to become vehicles for inciting violent

and depraved crimes against the person." In reversing the conviction of a bookdealer because the statute was too vague, the Supreme Court held that a "failure of a statute limiting freedom of expression to give fair notice of what acts will be punished and such a statute's inclusion of prohibitions against expressions, protected by the principles of the First Amendment, violates an accused's rights under procedural due process and freedom of speech or press." *Winters v. New York*, 68 S. Ct. 665, 667. Even though the statute define the proscribed act with sufficient definiteness, failure to prescribe the penalty for violation results in a dismissal of the criminal proceeding. *U.S. v. Evans*, 68 S. Ct. 634. And an accused is denied procedural due process where his conviction is not based upon the crime charged. *Cole v. Arkansas*, 68 S. Ct. 514.

In Michigan a trial judge may serve as a one-man grand jury to investigate crimes, and may punish for contempt a witness who testifies "evasively." Such a one-man-judge grand jury, concluding a witness was evasive, immediately charged the witness with contempt, convicted, and sentenced him to sixty days in jail. Very properly the Supreme Court held the contempt proceeding to be a denial of procedural due process.

Mr. Justice Black traces this nation's accepted practice of guaranteeing a public trial to an accused back to a long time before the settlement of our land. "The traditional Anglo-American distrust for secret trials has been variously ascribed to the notorious use of this practice by the Spanish Inquisition, to the excesses of the English Court of Star Chamber, and to the French monarchy's abuse of the *lettre de cachet*. All of these institutions obviously symbolized a menace to liberty." *In re Oliver*, 68 S. Ct. 499.

On the right of a defendant in a Federal criminal proceeding to have counsel, unless the right is intelligently waived by the accused, the Court has set a high standard of which we may justly be proud. "The Sixth Amendment guarantees that an accused, unable to hire a lawyer, shall be provided with the assistance of counsel for his defense in all criminal prosecutions in the Federal courts." And it "is the solemn duty of a Federal judge before whom a defendant appears without counsel to make a thorough inquiry and to take all steps necessary to insure the fullest protection of this constitutional right at every stage of the proceedings. . . . To discharge this duty properly in light of the strong presumption against waiver of the constitutional right to counsel, a judge must investigate as long and as thoroughly as the circumstances of the case before him demand." *Von Moltke v. Gillies*, 68 S. Ct. 316 (reversing a judgment dismissing a petition for habeas corpus and remanding the case for further proceedings to determine definitely whether petitioner had understandingly waived her constitutional right). Regrettably, the Court holds that the Fourteenth Amendment does not require the same civilized standard.

Over the dissent of Justices Douglas, Black, Murphy, and Rutledge, the Court reaffirmed preceding doctrine in the following language: "The due process clause of the Fourteenth Amendment does not incorporate, as such, the specific guarantees found in the Sixth Amendment although a denial by a State of rights or privileges specifically embodied in that and others of the first eight amendments may, in certain circumstances, or in connection with other elements, operate, in a given case, to deprive a litigant of due process of law in violation of the Fourteenth Amendment. . . . As-

serted denial [of counsel] is to be tested by an appraisal of the totality of facts in a given case." *Bute v. Illinois*, 68 S. Ct. 763, 777 (holding counsel was not necessary); *Gryger v. Burke*, 68 S. Ct. 1256 (similar); but *Townsend v. Burke*, 68 S. Ct. 1252 and *Wade v. Mayo*, 68 S. Ct. 1270, held the circumstances required counsel.

In the matter of the use of confessions, the Court is usually vigilant in protecting the rights of the accused. *Haley v. Ohio*, 38 S. Ct. 302, reversed the murder conviction of a fifteen year old Negro boy because of the use of his confession. It had been obtained after five hours of interrogation, starting at midnight, by police officers working in relays, without any warning to the boy of his rights, and without his having the advice of friends, family, or counsel. *Accord*, *Lee v. Mississippi*, 68 S. Ct. 300 (reversing a conviction of a seventeen year old Negro).

On the closely related constitutional privilege against self-incrimination, the Court held the privilege did not attach to books and records required to be kept by licensed dealers under the Emergency Price Control Act, on the theory that these records are public and designed to assist in the enforcement as well as the administration of the statute.

Justice Jackson's dissent states the danger of this holding: "The protection against compulsory self-incrimination, guaranteed by the Fifth Amendment, is nullified to whatever extent this Court holds that Congress may require a citizen to keep an account of his deeds and misdeeds and turn over or exhibit the record on demand of government inspectors, who then can use it to convict him. . . . It would, no doubt, simplify enforcement of all criminal laws if each citizen were required to keep a diary that would show where he was at all times, with whom he was, and what he was up to. . . . we should have no hesitation in holding that the government must lose some cases rather than the people lose their immunities from compulsory self-incrimination." *Shapiro v. U.S.*, 68 S. Ct. 1375, 1410. The search and seizure doctrine of *Harris v. U.S.*, 331 U.S. 145, discussed in last year's review, has been restricted and its danger lessened in *Johnson v. U.S.*, 68 S. Ct. 367, *U.S. v. DiRe*, 68 S. Ct. 222, and *Trupiano v. U.S.*, 68 S. Ct. 1229. In the last case Federal agents had extensive information regarding the operation of an illicit distillery in ample time to procure a search warrant before making the raid, and the Court, therefore, held that the fact the contraband property seized was in close proximity to one of the arrested operators did not validate the search, without warrant, as an incident to the arrest. No reason was shown why the arresting officers could not have obtained a search warrant—"no reason," said the Court, "except indifference to the legal process for search and seizure which the Constitution contemplated."

The validity of New York's special or "blue ribbon" jury, upheld in *Fay v. New York*, 67 S. Ct. 1613, discussed in last year's review, was again unsuccessfully challenged on the ground that it violated the due process and equal protection clauses of the Fourteenth Amendment. *Moore v. New York*, 68 S. Ct. 705. And the Court has steadfastly adhered to its position that convictions of Negroes cannot stand, where Negroes are intentionally and systematically excluded from jury service. *Patton v. Mississippi*, 68 S. Ct. 184; *Brunson v. North Carolina*, 68 S. Ct. 634.

War Decisions. Because of the similarity of the Selective Service Acts of 1940 and 1948, cases un-

der the former Act have continuing importance. Judicial review available to a draft registrant is extremely limited. Thus in a criminal prosecution of a conscientious objector for being absent without leave from a civilian public service camp, the defendant-registrant is entitled to have the issue of improper classification submitted to the jury only where the court determines that there was no basis in fact for the draft board's classification, and the registrant is not entitled to introduce new evidence as to his status as a minister for it is the board's record upon which the registrant's violation of orders must be based. *Cox v. U.S.*, 68 S. Ct. 115. Compare the very narrow scope of judicial review open to an enemy alien ordered deported. *Ludecke v. Watkins*, *supra*, under Civil Liberties.

To keep the costs of the last war within reasonable limits and because of the continuing cold war, the power of the Federal government to recapture excessive war profits, to mobilize industry, and to requisition property has vast significance.

The Renegotiation Act of 1942 gave certain officials power to renegotiate war contracts, and to determine "excessive profits," subject to review by the Tax Court. *Lichter v. U.S.*, 68 S. Ct. 1294, ruled the Act constitutional, and that the Tax Court had exclusive jurisdiction to review the administrative determination of "excessive profits." Mr. Justice Burton took the position that under the constitutional power "To raise and support Armies" Congress could have conscripted industry and workmen, just as it did in drafting men into the armed forces under the Selective Service Act.

Congress did not choose, however, to mobilize the productive capacity of the nation into a governmental unit on the totalitarian model. Instead, government chose to contract with industry, but due to the unprecedented demand for war materials, the speed with which contracts had to be consummated, and the inability of the contracting parties to determine fair compensation in advance, the Renegotiation Act was designed to permit a recapture of excessive war profits. This Congress might constitutionally do; and the statutory term "excessive profits," in its context, sufficiently expressed the legislative policy so that the delegation of power to administrative officials was constitutional. For comparable reasons the government could requisition meat products for war purposes at OPA prices, and the Fifth Amendment did not require the owner to be compensated on the basis of replacement costs. *U.S. v. John J. Feltz & Co.*, 68 S. Ct. 1238 (construing the Emergency Price Control Act, the Second War Powers Act, and related wartime legislation). With equal fairness *Priebe & Sons v. U.S.*, 68 S. Ct. 123, ruled that a liquidated damage clause in a war contract, inserted to compel prompt compliance by the contractor, should not be enforced against a contractor who delivered when the government made demand, although not prepared to do so when the government had a contract right to demand delivery.

Under the Trading With the Enemy Act, as amended by the First War Powers Act of 1941, the Alien Property Custodian could seize shares of stock, in a domestic corporation, held by friendly aliens as pledgees of German corporations. But while the Alien Property Custodian could take this property, the Court was careful to point out the Constitution guarantees to friendly aliens the right to just compensation for property requisitioned, and that it can be assumed the United States will meet this constitutional obligation and hence friendly aliens will be compensated for any prop-

erty taken. *Silesian American Corp. v. Clark*, 68 S. Ct. 179. The same statutes were construed to give the Alien Property Custodian the right to "pierce the corporate veil," in reaching enemy interests technically held by friendly alien corporations. *Clark v. Uebersee Finanz-Korporation, A. G.*, 68 S. Ct. 174 (adopting the English rule established during World War I in the *Daimler* case, (1916) 2 App. Cas. 307).

The Congressional war power does not end with the cessation of hostilities. Nor was it ended by the Presidential proclamation terminating hostilities on Dec. 31, 1946, even though this proclamation inaugurated "peace-in-fact." The deficit in housing was in considerable measure caused by the heavy demobilization of veterans and by the reduction in residential construction during the war due to the allocation of building materials to military projects. Congress could, therefore, constitutionally enact the Housing and Rent Act of 1947. *Woods v. Lloyd W. Miller Co.*, 68 S. Ct. 421. And the remedial provisions of statutory rent control were strengthened by holding that the one-year statute of limitations for the recovery of overcharges commenced to run from date of breach of refund order, rather than from the date of each rental collection, *Woods v. Stone*, 68 S. Ct. 624; and the expiration of the Emergency Price Control Act on June 30, 1947, did not deprive the Emergency Court of Appeals of its exclusive jurisdiction to review OPA rental orders, *Woods v. Hills*, 68 S. Ct. 992.

Business, Transportation, and Labor. Probably the *Cement Institute* decision, 68 S. Ct. 793, invalidating industry's use of the basing point system in fixing prices, is the most important current victory by government in its war on monopoly and discriminatory prices. The Cement Institute, acting for the cement industry, worked out a multiple basing point system built upon the theory of the single basing point system, "Pittsburgh plus," used by steel. Under "Pittsburgh plus" sales of steel were made only at delivered prices, and the delivered price of steel from anywhere in the United States to a point of delivery anywhere in the United States was in general the Pittsburgh price plus the railroad freight rate from Pittsburgh to the point of delivery.

For example, a Chicago steel producer would sell his steel at the Pittsburgh price plus the railroad freight rate from Pittsburgh to the point of delivery, and his purchasers in Chicago were thus required to pay for Chicago produced steel the Pittsburgh base price plus what it would have cost to ship the steel by rail from Pittsburgh to Chicago had it been shipped. The theoretical cost of this fictitious shipment became known as "phantom freight."

On the other hand a Chicago producer selling steel in Pittsburgh had to "absorb" his freight costs. "Several results," stated Mr. Justice Black, "obviously flow from use of a single basing point system such as 'Pittsburgh plus' originally was. One is that the 'delivered prices' of all producers in every locality where deliveries are made are always the same regardless of the producer's different freight costs. Another is that sales made by a non-base mill for delivery at different localities result in net receipts to the seller which vary in amounts equivalent to the 'phantom freight' included in, or the 'freight absorption' taken from the 'delivered price.'"

Due to bulk and a tendency to deteriorate, cement is consumed within a relatively small distance from its point of production, and hence the princi-

ple of "Pittsburgh plus" was modified by the cement industry, which worked out a multiple basing point system with basing points scattered about the country. But the effect on the consumer within any one of the basing-point systems established by the cement industry was substantially the same as under "Pittsburgh plus."

The Court affirmed the finding of the FTC that the cement industry's use of its multiple basing point price system was an unfair method of competition under the Federal Trade Commission Act and an unlawful price discrimination under the Clayton Act; and rejected the contention that the FTC is deprived of jurisdiction to establish a violation of the FTC Act because the same conduct might also be a violation of the Sherman Act.

A second FTC victory, the *Morton Salt* case, 68 S. Ct. 822, may result also in additional widespread changes in pricing methods. The Court ruled that the Clayton Act, as amended by the Robinson-Patman Act, forbids all cost discounts which the vendor cannot justify as reflecting actual cost differences to him, even though there is no theoretical discrimination since the quantity price discount is available to all customers who buy in sufficient amount. Only the five great grocery chain stores could and did buy 50,000 cases of salt in one year, which was required to earn the cost discount involved in this case. And as a matter of procedure, exceedingly important in this type of case, the Court ruled that once the FTC establishes the existence of quantity price discounts, the burden of proof shifts to the company to show that the differential is justified by its actual costs; and the Commission need find only that there is a "possibility" (as distinguished from a "probability") that competition will be injured by the price discrimination.

Students have long recognized that patents are susceptible of use in a manner violating the Sherman Anti-Trust Act. A patent is, of course, a special kind of monopoly granted by the government to the patentee, but patentees have often attempted to go beyond their clear legal monopoly and fix prices and regiment a particular industry.

While an outright sale of a patented article put control of the purchaser's resale price beyond the patentee's power, the *General Electric* case, 272 U.S. 476 (1926), ruled that a patentee could lawfully grant a license to make and vend on condition that the licensee in its sales of the patented devices conformed to the patent-licensor's sale price schedule. Although four Justices, Black, Douglas, Murphy, and Rutledge, desired to overrule the *GE* case, a majority refused to do so but held, however, that the *GE* decision did not allow a patentee to collaborate with another patentee and by a cross-licensing system fix prices. *U.S. v. Line Material Co.*, 68 S. Ct. 550.

And a unanimous Court ruled in the *Gypsum* case, 68 S. Ct. 525, that the *GE* decision "gives no support for a patentee, acting in concert with all members of an industry, to issue substantially identical licenses to all members of the industry under the terms of which the industry is completely regimented, the production of competitive unpatented products suppressed, a class of distributors squeezed out, and prices on unpatented products stabilized." Nor could a salt producer owning patented machines for the utilization of salt products validly lease them on condition that the lessees purchase from it all the salt, which was unpatented, that would be processed in the machines. *International Salt Co. v. U.S.*, 68 S. Ct. 12.

Three cases affecting the motion picture industry should go far toward breaking up monopolistic

practices if the district courts, to which the cases were remanded, mould their decrees realistically to the facts and theory enunciated by the Supreme Court. In the *Paramount* case, 68 S. Ct. 915, the defendants fall into three groups:

(1) Paramount, Loew, RKO, Warner Bros., Twentieth Century-Fox, which produce motion pictures, and their respective subsidiaries or affiliates which distribute and exhibit films. These are the five major defendants or exhibitor-defendants.

(2) Columbia Pictures and Universal, which produce, and their subsidiaries which distribute films.

(3) United Artists, which is engaged only in the distribution of motion pictures. The first group, or the five "majors," own or control approximately 70 percent of the first-run theaters in cities of over 100,000, approximately 60 percent of the first-run theaters in cities of 25,000 to 100,000, and have interests in all theaters in about 30 smaller towns. No film is sold to an exhibitor in the distribution of motion pictures; instead, the right to exhibit under copyright is licensed.

Two price-fixing conspiracies were found to exist: a horizontal one between all the defendants within the rule of the *Gypsum* case; and a vertical one between each distributor-defendant, and its licensees. A reasonable "clearance" (the stipulated period of time in license contracts which must elapse between runs of the same feature within a particular area or in specified theaters) remains permissible.

Other practices such as pooling and division of profits, block booking (requiring exhibitors to take a group of pictures or none at all), and the granting of special privileges to reasonably large independents that were denied small competitors must stop. In determining the relief to be granted the United States, the Court held it would uproot established business relationships to order that films be sold by competitive bidding, and would give no substantial benefit to small independents, since the majors had become too strong for price competition, and the task of supervising such a decree was impracticable.

While Mr. Justice Douglas's opinion indicates that the majors should be required to divest themselves of their exhibiting outlets as the most efficient answer to the monopoly presented, the case was remanded to the trial court for findings and conclusion as to the best remedy for adoption. On the other hand *Schine Chain Theaters*, 68 S. Ct. 947, established that a divestiture decree was an appropriate means of breaking up a monopoly established by a parent company and five of its wholly owned subsidiaries, which owned or controlled a chain of approximately 148 motion picture theaters. And *U.S. v. Griffith*, 68 S. Ct. 941, held that the Sherman Act had been violated by affiliated theater owners which used their circuit buying power to obtain films under master agreements which lumped together towns in which there were competing theaters with towns in which there was no such competition, and which obtained certain exclusive privileges in both monopoly and competitive towns.

While the Sherman Act, which was passed in 1890, was phrased in terms of "commerce" and much Federal legislation enacted during the last twelve or thirteen years has been framed in terms of "affecting commerce," the Court in *Mandeville Island Farms v. American Crystal Sugar Co.*, 68 S. Ct. 996, merged the two lines of theory so that the Sherman Act covers restraints of trade both "in commerce" and "affecting commerce." Thus an

agreement of California sugar refiners, who sell in interstate commerce, to pay a uniform price for sugar beets grown in California violates the anti-trust act, although the final aim of the refiners was to control the local sugar beet market.

The government, though, was unsuccessful in its attempt to curb the expansion of U.S. Steel. In the most important anti-trust case before the Court in years, the United States had sued to enjoin U.S. Steel and its subsidiaries from purchasing Consolidated Steel Corporation, the largest independent steel fabricator on the West coast. During the last war the government developed the Geneva, Utah, steel plant at a cost approximating \$200 million.

U.S. Steel was the wartime operator of the Geneva plant, and purchased it from the Surplus Property Administrator in 1946 for the sum of \$47,500,000, after the Attorney-General had filed an opinion that such a purchase of Geneva did not violate the anti-trust laws. Having obtained Geneva, U.S. Steel then sought to purchase Consolidated for the partial use of its Geneva product.

The United States sought to establish that (1) the acquisition of Consolidated would constitute an illegal restraint of interstate commerce because manufacturers other than U.S. Steel would be excluded from supplying Consolidated's requirements of rolled steel products, and because competition now existing between Consolidated and U.S. Steel in the sale of fabricated products will be eliminated; and (2) the acquisition of Consolidated, viewed in the light of a previous series of acquisitions by U.S. Steel, constitutes an attempt to monopolize the production and sale of fabricated steel products in the Consolidated market. For the majority, Mr. Justice Reed affirmed the trial court in finding against the government. The dissent of four Justices, represented by Douglas, represents the view that bigness in itself is a phenomenon at which the Sherman Act was aimed, and that to permit further growth of U.S. Steel violates the anti-trust Act. "Approval of this acquisition . . . makes dim the prospects that the western steel industry will be free from the control of the eastern giants. . . . United States Steel has one-third of the rolled steel production of the entire country. The least I can say is that a company that has that tremendous leverage on our economy is big enough." *U.S. v. Columbia Steel Co.*, 68 S. Ct. 1107.

In the field of transportation the commodities clause of the Interstate Commerce Act prohibits a railroad from transporting any commodity, with some exceptions, which it owns or in which it has an interest, except for its own use. The *Elgin* case, 298 U.S. 492 (1936), held that this prohibition did not prevent a railroad from transporting commodities of a corporation whose stock is wholly owned by a holding company which also owns all of the stock of the railway, unless the control of the railway is so exercised as to make it the alter ego of the holding company. The Court, four Justices dissenting, refused to depart from that precedent on the ground that its overruling or modification should be left to Congress. *U.S. v. South Buffalo Railway Co.*, 68 S. Ct. 868. The Transportation Act of 1940 vests the Interstate Commerce Commission with an exclusive jurisdiction over, and establishes the standards for approval of, a railroad merger. Hence the Commission must determine whether a plan is "just and reasonable" in its treatment of stockholders; and what Michigan, the incorporating State of one of the merging railroads, might give dissenting stockholders on liqui-

dation is irrelevant, except insofar as it may be reflected in current values for which they are entitled to an equivalent. *Schwabacher v. U.S.*, 68 S. Ct. 958 (dealing with a merger of the Pere Marquette, a Michigan corporation, and the Chesapeake & Ohio, a Virginia corporation). And a railway system, consolidated with ICC approval, cannot be required by a state to establish a subsidiary as a condition to operating therein. *Seaboard Air Line Railway Co. v. Daniel*, 68 S. Ct. 426.

In the labor field, the *Bay Ridge* case, 68 S. Ct. 1186, may have consequences similar to the *Mt. Clemens* portal-to-portal pay decision, 328 U.S. 680 (1946), that necessitated the Portal-to-Portal Act of 1947 to undo its mischief. In *Bay Ridge*, certain dissident longshoremen, opposed not only by their employer but also by their union, sued for compensation alleged to be due under the Fair Labor Standards Act. The Court, five to three, held they were entitled to time and one half for overtime hours in addition to the time and one half the day rate they were given by their contract for evening, holiday, and weekend work. The majority held that the contract time and one half was not "overtime" but was a "night differential," and hence was the "regular rate" for night hours, although this fifty percent differential is two or three times larger than any "night differential" in American industry. By sustaining the employees' demand for "overtime pay on overtime," the longshoremen received a multimillion dollar windfall. For discussion, see Farmer, *Overtime on Overtime*, 34 Va. L. Rev. 745.

Migratory Divorces. Construction of the Constitution's Full Faith and Credit Clause puts the Supreme Court very much in the domestic relations field. The first *Williams* case, 317 U.S. 287 (1942), held that a State, Nevada, could grant a valid divorce, provided the plaintiff was domiciled therein, although (1) this State was not the matrimonial domicile and (2) the defendant spouse in North Carolina was served only constructively (by publication) and did not appear in the Nevada divorce action. Such an "ex parte" divorce was entitled to full faith and credit in a North Carolina bigamy prosecution of the divorcee-plaintiff, who had remarried.

The second *Williams* case, 325 U.S. 226 (1945), ruled, however, that while the jurisdictional finding of domicile by the Nevada court granting the "ex parte" decree is entitled to prima facie weight, it is not conclusive in a sister State, and North Carolina might relitigate the jurisdictional issue and find that the plaintiff was not in fact domiciled in Nevada and hence his divorce was a nullity.

The question remained as to the validity of "quickie" divorces, granted by such States as Nevada and Florida, when the defendant spouse appeared in the divorce action—which usually, but not always, meant that both spouses desired divorce, but could not or did not want to obtain it at home. The Court has now partially answered the question. Following orthodox doctrines of res judicata established in other areas of litigation, the Court has ruled that where the defendant spouse appears in the divorce proceeding and either litigates the issue of the plaintiff's domicile, or counterclaims for a divorce, any decree of divorce entered in that proceeding is entitled to full faith and credit in any other State, at least in litigation between the spouses and those in privity with them. *Sherrer v. Sherrer*, 68 S. Ct. 1087 (involving validity of Florida divorce decree in Massachusetts), *Coe v. Coe*, 68 S. Ct. 1094 (involving validity of Nevada divorce decree in Massachusetts).

Thus "quickie" Nevada and Florida divorces, granted in proceedings in "contested" cases are valid as between the spouses. Conceivably a State in which the spouses had been domiciled prior to one of them removing to Florida or Nevada may, in a criminal prosecution for bigamy or some related crime, still attack the jurisdictional findings of the Florida or Nevada divorce decree rendered in a "contested" case. If a State, such as North Carolina is not in privity with the parties, the "quickie" divorce decree will be valid for most but not all purposes. This possibility receives some support from doctrine currently announced that a divorce decree is divisible. Thus where a wife was granted a separation decree and awarded alimony by a New York court while the spouses were domiciled in New York, and thereafter the husband removed to and became domiciled in Nevada and subsequently obtained a default decree of divorce based on constructive service, the divorce decree terminates the marriage relation, but does not terminate the duty under the New York decree to pay alimony, provided a support order can survive divorce in New York. *Estin v. Estin*, 68 S. Ct. 1213 (New York law held that a support order can survive divorce, and hence Nevada court not having *in personam* jurisdiction over the wife could not terminate her property interests in the New York judgment), *Kreiger v. Kreiger*, 68 S. Ct. 1221 (similar).

Jurisprudence, Federal Practice and Law Reform. While the Court's totality of judicial work declined slightly during the last Term, division in the Court remains high and sharp. At the last (1947-1948) Term the Court handed down 119 majority opinions disposing of 155 cases compared to 143 opinions disposing of 190 cases at the preceding (1946-47) Term. Of the 119 opinions, 66 percent involved dissenting votes, about a 4 percent increase in dissents. Twenty-four, or 20 percent, of the cases were decided by the narrow margin of five to four, and this is also a slight percentage increase.

Chief Justice Vinson and Justice Reed, being the most infrequent dissenters, represent the core of the Court; all the remaining Justices were in dissent far more frequently, with Justice Douglas the top dissenter. To the extent that a general characterization can be given to a bloc, Justices Burton, Frankfurter, and Jackson comprise the right, and Justices Black, Douglas, Murphy, and Rutledge the left wing. 16 L.W. 8383; Frank, *The United States Supreme Court*, 16 U. Chi. L. Rev. 1, 45. For related discussion, see Braden, *Search for Objectivity in Constitutional Law*, 57 Yale L. J. 571; Bernhardt, *Supreme Court Reversals on Constitutional Issues*, 34 Corn. L. Q. 55.

Professor Frank in his excellent article, *supra*, characterizes the Court's recently concluded Term in this manner:

"Like America, the Supreme Court did not go anywhere very definitely in 1947-48." Congress, on the other hand, definitely did go forward, by revising, modifying, and enacting as positive law Titles 18 and 28 of the United States Code, which were approved by the President on June 25, and became effective Sept. 1, 1948. Title 18 deals with Crimes and Criminal Procedure, Title 28 with the Judiciary and Judicial Procedure.

Both Titles are supplemented by Federal procedural rules promulgated by the Supreme Court under its statutory rule-making power—the Criminal Rules, Civil Rules, Copyright, and Admiralty Rules, and General Orders in Bankruptcy. 2 *Moore's Federal Practice* (2nd ed.) §1.03. The revision of Titles 18 and 28 eliminated obsolete statutory ma-

terials; consolidated, compressed, and clarified the older statutory language, and particularly in regard to Title 28 made important changes in civil practice and procedure, without altering the basic structure of the Federal judicial system or its jurisdictional basis. See Maris, *New Federal Judicial Code: Enactment by 80th Congress a Notable Gain*, 34 A.B.A.J. 863; Galston, *An Introduction to the New Federal Judicial Code*, 8 F.R.D. 201; Moore, *Statement Before House Judiciary Committee*, 1948 Code Cong. Serv. 1965. Improvement and clarification in a work of this magnitude can undoubtedly be made, and the Chief Justice has re-constituted his judicial committee, Judges Maris, Galston, and Smith to study the matter. To make the necessary correlating changes to revised Titles 18 and 28, the Court amended the Federal Criminal Rules and the Federal Civil Rules on Dec. 27 and 29, 1948. It did not, however, promulgate the Advisory Committee's proposed Federal rule to govern the condemnation of property under the power of eminent domain, but re-referred the matter to the Committee for more study, particularly as to the method of trial. If and when the Court promulgates the rule, this specialized type of civil litigation will receive simple treatment within the general framework of the Federal Civil Rules.

—JAMES WM. MOORE

LEAD. Consumption of lead by domestic industry was very high last year, which caused further increases in the all-time-high price of 15 cents per lb. for common lead at New York at the first of the year to 21.50 cents at year end. Domestic consumption of primary lead was approximately 700,000 net tons (1947: 744,000 tons). Consumption of primary, antimonial, and secondary lead was about 1,025,000 tons (1947: 1,150,000 tons). The heavy domestic consumption, despite strikes here and abroad, was at the expense of foreign consumption that has remained low since the war.

Domestic mine production continued at a high level under the impetus of high prices, about 378,000 tons (1947: 384,216 tons), despite a loss of 25,000 tons due to a strike at southeastern Missouri properties of St. Joseph Lead Co. Missouri continued, nevertheless, as the leading producing State.

Recovery of secondary lead from scrap was high, 325,000 tons in the first eight months (year 1947: 504,000 tons). Scrap was very scarce and competition for it was so keen that the price approached that of primary metal. Consumers were buying secondary lead and imports at gray market prices as high as 24 cents per lb.

Imports of lead and concentrates were very large, stimulated by the high domestic and premium prices. By the end of November, imports were 294,545 tons (year 1947: 227,787 tons). Refined lead constituted 70 percent of the tonnage, largely from Mexico and Canada, with smaller tonnages from Australia, Peru and Italy. Ore and matte represented 17 percent of the imported tonnage, principally from Bolivia and South Africa. The tariff was suspended for a year beginning July 1.

World mine production of lead should reach 1,880,000 tons, it is estimated (1947, revised: 1,276,000 tons). On a refinery basis, primary lead production by principal producing nations to the end of November was as follows: Australia, 190,500 tons; Mexico, 184,211 tons; Canada, 143,467 tons. Production by Mexico and Canada was significantly lower than in 1947, but Australia showed only a small decline. However most of the smaller producing nations were able to step up their production significantly in 1948.

Shortages of lead in the domestic market during the year were aggravated by strategic stockpiling at the rate of about 16,000 tons a quarter.

—JOHN ANTHONY

LEBANON. An Arab republic on the eastern Mediterranean. Area: 3,881 square miles including the Lebanon and anti-Lebanon mountain ranges, not more than 1,000 square miles cultivated, and 500 more cultivable. Population: over 1,187,000 with a high population density. Chief cities: Beirut (capital and principal port) over 350,000 inhabitants; Tripoli (port) 72,000. More than half the population are Christians, divided into several sects with Maronites predominating. Except for a few Jews the rest are Moslems; the Sunnis being the largest group and the Shias next.

Education. In 1946-47 there were 623 primary and secondary public schools with 52,400 pupils and 326 private schools with some 43,000 pupils. Outstanding among the latter (which include many foreign schools) are the non-sectarian American University of Beirut and the Université Saint Joseph (French Jesuit) also in Beirut. In addition to several institutes for training teachers—commerce, domestic science and other vocational courses—the Ministry of Public Instruction supervises the Lebanese Academy of Fine Arts. Literacy is higher in Lebanon than in any other Arab country.

Production. Almost all the cultivated land depends on rainfall, with olives, citrus and other fruit, vegetables, cereals, and dry legumes important. The estimated 70,000 tons of wheat produced in 1948 was much higher than 1947's 50,000 tons, but there is still a deficit to be made up in part by imports from Syria. Citrus and banana crops, both exported, have increased thanks to improved cultivation methods. The prospects of exporting more olive oil are better because of improved refining. Silk-making has been important but its future is made uncertain by the competition of rayon and nylon. (See SYRIA for *Foreign Trade*.)

Transportation. There are about 250 miles of railway, of which the war-built link connecting Haifa and Tripoli (and thereby Africa and Europe) is the newest. The good network of asphalted roads connects Beirut with Damascus and all important Lebanese towns. British, Egyptian, and Iraqi airlines use Beirut's airport. There are radio, telephone, and telegraph facilities.

Finance. Lebanon forms a customs and economic union with Syria. Budget estimates for 1947 were balanced at £Leb58.9 million. (Official rate of exchange since 1946: £Leb2.205 equals U.S.\$.)

Government. The republic, whose independence from the French mandate was proclaimed in 1941 and asserted in 1946, is headed by a President (Bechara el-Khoury, elected in 1943) elected for six years by the Chamber of Deputies. He is assisted by Ministers, appointed by him, who are responsible to the Chamber. The Deputies are elected by popular ballot for four years with every citizen over 21 eligible to vote.

Events, 1948. An application was made for a loan from the International Bank for Reconstruction and Development to intensify and improve agricultural production and to complete irrigation projects started during the war. In February, Lebanon's Ambassador to the United States, Charles Malik, was elected President of the United Nations' Economic and Social Council for 1948.

Relations with France. On February 6, Lebanon signed an agreement with France under which France guaranteed Lebanon's currency against devaluation for ten years, the French government's

property claims were liquidated, and the French debt to Lebanon modified. In October, following the recommendations of Belgian and Egyptian experts, the Chamber ratified the agreement. But in loosening, rather than cutting off, financial ties with France, Lebanon complicated its economic relations with Syria.

UNESCO Conference. On November 17, the third general conference of the United Nations Educational and Scientific and Cultural Organization opened in Beirut. Its deliberations were marked by two incidents reflecting the area's tension: Mustafa el-Aris, accredited observer for the World Federation of Trade Unions and alleged leader of the banned Lebanese Communist Party, was arrested while attending the conference. The Israeli application, solicited by UNESCO's organization board in an unofficial capacity, was withdrawn because the Lebanese government was "unwilling to grant the necessary facilities." The conference was climaxed by UNESCO's vote of three "Lebanon Conference Fellowships" to allow Lebanese to spend six months studying abroad as a mark of the conference's gratitude for Lebanese hospitality.

Palestine Problem. Immediately following the United Nations' Palestine partition vote demonstrations started. Government funds were allocated to help Palestinian Arabs. In January the government forbade unauthorized movement by Jews and expelled all Palestinian Jews. By May a state of emergency had been declared. The June report that the government had authorized the seizure of all Israel-bound ships touching at Beirut was followed by the six-week detention of American citizens from the American Export liner *Marine Corp*. The first American protest was rejected on the basis that the action had been taken for the "safety of the Lebanese Army of Occupation in Palestine and for the order and security in Palestine territories occupied." Following its second note the United States agreed to the Lebanese demand that those held return to the United States. (See ARAB LEAGUE AFFAIRS; PALESTINE.)

—DOROTHEA SEELYE FRANCE

LEEWARD ISLANDS, British. A group of islands in the British West Indies comprising the four presidencies: Antigua (with Barbuda and Redonda), St. Christopher and Nevis (with Anguilla and Sombrero), Montserrat, and the Virgin Islands. Area: 422½ square miles. Population (1946 census): 108,847. Agriculture is the principal occupation of the people. Chief products: sugar and molasses (Antigua and St. Christopher), cotton (Montserrat, St. Christopher, Nevis, and Virgin Islands), limes, fruits, and vegetables (Montserrat), coconuts (Nevis), and salt (Anguilla and St. Christopher). Foreign trade (1946): imports £1,500,000; exports £1,100,000. Finance (1946): revenue £700,000; expenditure £620,000. A governor administers the colony, which is divided into four presidencies. An Executive Council and a General Legislative Council assist the governor. The seat of government is at Antigua. Governor: Earl Baldwin of Bowdley (appointed Feb. 9, 1948).

LIBERAL PARTY. The Liberal Party of New York State was formed May 19, 1944. Chairman, Adolf A. Berle, Jr.; Vice Chairmen, David Dubinsky, Dr. John L. Childs, Dr. George S. Counts, Dr. Reinhold Niebuhr, Alex Rose; Secretary, Joseph V. O'Leary; Treasurer, Harry Uviller; Executive Director, Ben Davidson; Upstate Director, James Donnelly.

The Party has 80 Assembly District Clubs in

New York City, county organizations in the various counties of the State, a Trade Union Council comprising AFL and CIO unions with a combined membership of over 500,000, a Women's Division, a Veteran's Division, and a Youth Division. Committees of the Party are active in national, State, and local affairs. In the 1948 national elections the Liberal Party endorsed President Truman for reelection, and Senator Alben W. Barkley for Vice President.

LIBERIA. A Negro republic on the west coast of Africa between Sierra Leone and the Ivory Coast. Capital, Monrovia (population, 10,000).

Area and Population. Total area: 43,000 square miles. No proper census has ever been taken, and the population is estimated at anywhere from one to two million. Only about 60,000 of the coast Negroes are considered civilized by European standards. Among them are some 15,000 Americo-Liberians—the descendants of freed slaves from the United States—who form the governing and intellectual class. The natives are divided among six principal stocks and various smaller tribes. The Mandingoes are Moslems and most of the rest are pagans, though various Christian missions are operating in the country. English is the language of government and commerce.

Education. In 1946 there were 206 schools (81 run by the Government) and 16,000 students. The great mass of the Liberian people is illiterate and wholly innocent of any formal education.

Production and Trade. Most of the inhabitants, living in a tribal state, participate little or not at all in the world's money economy. Such resources as the country possesses are largely undeveloped. Almost the only export is raw rubber, produced on the Firestone plantations and shipped out through the port of Marshall, east of Monrovia. In 1946 exports were valued at \$12,312,982 and imports (largely manufactured goods) at \$4,731,715.

Communications. There are no railways and very few roads, though the latter are being extended here and there, and no interior telegraph or telephone communications. There are several ports, but only one (at Monrovia) with facilities for servicing vessels at docks; all operations in the other ports being carried on by lighter.

Finance. In 1946 the government's revenue amounted to \$2,337,401 and its expenditure to \$2,307,114. Customs account for nearly half of the income; while debt charges, interest and amortization absorb over one-fifth of the outgo. Under the terms of the Loan Agreement with the United States, Liberian finances are supervised by American experts. A first charge on all revenues is the service on the American loan. The external bonded debt as of Jan. 1, 1946, was \$708,000.

Government. The frame of government is modeled after that of the United States. There is a President and his Cabinet, a Senate (10 members) and a House of Representatives (21 members). The President, elected in 1943 for the term 1944-52, is William V. S. Tubman of the True Whig Party. This party is controlled by a small oligarchy of Americo-Liberian families dwelling in the few coastal cities, for the franchise is restricted to Negro landowners. This party has pretty well monopolized political power in the Republic for the last three generations. The real natives of the country have participated very little in the national administration.

Events, 1948. More and more the Negro Republic came under the political and economic tutelage of the United States. The ambitious Stettinius plan

(described in the *YEAR BOOK, Events of 1947*) got under way during the year under review. The operating organ of the scheme was the Liberia Company, for which over two dozen affiliates and subsidiaries were eventually planned. During 1948 it became involved in such enterprises as the public utility business, banking, cocoa-growing, and social welfare programs. The Liberia Foundation, which had charge of the last-mentioned activity, was placed under the direction of Mr. Edwin R. Embree, who had until recently been head of the now defunct Rosenwald Fund, devoted to the advancement of American Negroes. Public health as well as education and welfare were included in the Foundation's sphere of activity.

Before the country could be developed it would require the construction of a modern transportation and communications system, then almost wholly lacking. There was, for example, no railroad. This shortcoming the Liberia Company proposed to remedy by surveying a route for a line from Monrovia inland some 200 miles to the border of French Guinea via the Bomni Hills district, where it would tap the recently explored iron-ore deposits. Such a line would also open up large and fertile areas to agricultural exploitation.

In August it was revealed by the Liberia Company that it had chosen as president of its affiliate, the Liberia Products Company, Major General William W. Richards of the Royal Ordnance Corps. This concern was to operate in such fields as textile production, logging, palm-oil processing, and fishing. During the summer another affiliate, the Liberian International Airways, Inc., began service between New York, Dakar, Monrovia, and Leopoldville.

The deep-water harbor under construction near Monrovia for several years was formally opened on July 26, the 101st anniversary of Liberian independence. Covering some 750 acres and accommodating 8 or 9 vessels, it had been built with American funds made available by lend-lease agreement of 1943. The port's operation was to be in the joint hands of seven American shipping and trading concerns.

During the spring Mr. Stettinius paid a brief visit to Liberia to inspect progress and consult with company and government officials.

—ROBERT GALE WOOLBERT

LIBRARY OF CONGRESS. This library while serving as the principal research source to the Congress of the United States and its Committees, furthering governmental studies and cooperating in international projects and conferences, continued to perform the duties of the world's largest reference library. Congressional, in name and primary function, it is, inescapably, a national library by legislative origin, public maintenance, Federal status, and the constant importunity of layman and scholar. Comprehensive collections—unique in many fields—increasing through gift, domestic and foreign exchange, copyright deposit, purchase and transfer, in excess of cataloging capacity, imposed, in partial solution of the problem, priorities for the treatment of new material.

Among additions, notable for scope and diversity were: manuscripts of major works of Bach, Haydn, Mozart, Beethoven, Brahms, and Reger; the papers of Josephus Daniels, the Russian Library of the American Legation at Riga stored in Stockholm since confiscation in 1940; Confederate war maps, including 275 holographs, prepared by Major Jedediah Hotchkiss, many annotated by Generals Lee and Jackson; Friendship Train testimonials to

Drew Pearson from the French and Italian governments.

Also a rare Chinese Buddhist book printed in Hangchow in 1160 A.D.; Armenian publications presented by the Committee for the Armenian Collections of the Library of Congress; a contemporary engrossed and signed copy of the Thirteenth Amendment; French clandestine war-time publications covering the period from mid-1940 to the liberation of Paris in August, 1944; and selected films declared surplus to the needs of the Department of the Air Force but considered eminently important for current use and permanent retention.

The Lacock Abbey confirmation of Magna Carta (1225) was, by a special courier, returned to the British Museum in accordance with the act of Parliament which had authorized its loan for two years. A collotype facsimile, perfectly executed to the minutest detail, a gift from the British Museum was placed on display. The tour of the Freedom Train made it possible for millions to see 28 basic documents in American history lent from the Library's collections, including Jefferson's "Rough Draft" of the Declaration of Independence (1776), the first volume of the manuscript Journal of the Constitutional Convention (1787), and a draft by George Mason of a Declaration of Rights which became the basis of the Bill of Rights.

Though curtailed hours of reader service continued, in April the exhibit halls were opened on all evenings that visitors might inspect the frequently changing displays as well as the permanently enshrined originals of the Declaration of Independence, the Constitution, and other documentary heritages. An exhibit of material on UNESCO's purposes and progress demonstrated, as well, the Library's interest through the years in promoting the international interchange of knowledge. There were three State exhibits in continuation of the series begun several years ago: the 215th anniversary of the founding of Savannah and the Colony of Georgia was commemorated, Wisconsin's 100th anniversary of statehood was observed, and the establishment of the Territory of Oregon was appropriately marked.

The original Czechoslovak Declaration of Independence, and the original signed copy of the "Declaration of Common Aims of the Independent Mid-European Nations" sent to Woodrow Wilson by Thomas G. Masaryk were distinguished pieces in "Thirty Years of the Czechoslovak Republic—An Exhibition in Honor of Its Founders." The Voice of America beamed a description to Europe with clear reception reported.

Ultrafax, a new high-speed communication system combining modern principles of television and photography, was demonstrated by R.C.A. before a distinguished audience of government officials, scientists, engineers, librarians, service personnel, and leaders in communications in the Library's Coolidge Auditorium. Among the lectures delivered were "Aviation History, 1903-1960" by John K. Northrop; T. S. Eliot, winner of the 1948 Nobel Prize in Literature spoke on "Edgar Poe and his Influence in France"; Dr. Amiya Chakravarty presented the music and dances of India with motion picture illustration; and Robert Frost read selections from his poetry. FM broadcasting of concerts of chamber music was begun, thus increasing the potential audience from five hundred to several million.

Publications ranged from established serials—*The United States Quarterly Book List*, *The Handbook of Latin American Studies*, and *The Quarterly Journal of Current Acquisitions*—to such special

studies as the Legislative Reference Service report on *Limitation of Debate in the United States Senate*. Other publications included *An Album of American Battle Art, 1755-1918*, *A Guide to the Art of Latin America, National Censuses and Vital Statistics in Europe, 1918-1939*, with a supplement for 1939-48, and a new serial, *Monthly List of Russian Accessions*, containing entries for publications in the Russian language currently received by the Library of Congress and a number of cooperating libraries.

Fifty new records of folk songs from the Archive of American Folk Song were issued and the Bollingen Foundation through a special grant made possible a series of recordings of poems read by their authors. The Bollingen Prize in Poetry was established as an annual award for the best book of verse published by an American author during the preceding calendar year. The Fellows in American Letters of the Library of Congress will serve as the Jury of Selection. With the support of the Rockefeller Foundation and under the general editorship of Ralph Henry Gabriel, the Library undertook the sponsorship of a series of extended essays dealing with the various aspects of American civilization in the 20th century.

The striving for international peace through understanding placed privileged responsibilities upon the Library. Luther H. Evans, Librarian of Congress, a member of the U.S. National Commission for UNESCO, assisted the U.S. Delegation at the Second General Conference held at Mexico City in the organization and development of its program. In November he journeyed to Beirut as a delegate to the Third General Conference. The Chief Assistant Librarian, Verrier W. Clapp, served on the U.S. Library Mission to advise on the establishment of the National Diet Library of Japan. In August, the Library of Congress undertook, on a contractual basis, the compilation of bibliographies for the Division of Library Services of the United Nations.

Statistics of the Library of Congress, as of July 1, 1948, are presented in the accompanying table.

<i>Contents reckoned at nearly</i>	27,000,000
<i>Pieces included:</i>	
Printed books and pamphlets	8,387,385
Manuscript pieces	8,896,597
Maps and views	1,868,911
Music-- volumes and pieces	1,788,449
Photograph recordings	287,414
Photographic negatives, prints and slides	1,708,247
Prints and broadsides	578,765
Posters, photostats, and miscellany	624,163
Unbound serials parts and newspaper issues	2,392,055
<i>Legislative Reference Service:</i>	
Requests from Members and Committees of Congress for reference or research	21,420
Reports prepared in typed form (plus 63 published)	1,900
<i>General reference and circulation services:</i>	
Pieces supplied for use	2,081,483
Readers served (452,613 individually)	874,622
Telephone requests for reference and loan service	171,373
Bibliographies prepared (28,266 entries)	654
Letters in response to reference requests	29,060
National Union Catalog entries reached more than	14,000,000
(recording the principal holdings of more than 800 libraries)	

Administrative changes included the establishment of the European Affairs Division and the Air Research Unit. Robert Lowell was succeeded by Léonie Adams as Consultant in Poetry in English for the year 1948-49.

The Legislative Reference Service responded to the largest number of inquiries in the 33 years of its history. Many reports were prepared by senior specialists assigned to broad subjects.

Through the sale of more than 20 million printed catalog cards and *The Cumulative Catalog of the Library of Congress* a million dollars and a million work hours were saved in many institutions.

—LUTHER H. EVANS

LIBRARY PROGRESS. The aim of public library service in America now, as always, has been to serve all of the people of the country regardless of economic status, race, or residence. The ultimate goal of librarianship is to serve all of the people everywhere. Thirty-five million people (mostly rural) still have no public libraries whatever, while approximately 50 million are served by libraries which are inadequate by any reasonable standards to provide a first-class service of information and education.

Acknowledging this lack of libraries and the great variety of complex problems facing the United States today, E. W. McDiarmid, President of the American Library Association, stated in his inaugural address at the Atlantic City conference in June, that "our society requires for every responsible citizen a fundamental education from the first grade through high school, followed by a system of higher education for those competent to profit from it, and an intensive program of adult education for everyone. Our people must not only have a basic general education, covering the fundamentals of history, sociology, politics, science, and literature, but they must in addition have a continuing program of education in the background, history, fundamental issues, and current aspects of the great problems that face us."

Realizing this, libraries throughout the United States adopted the "Great Issues" program (see the A.L.A. *Booklist*, Aug. 15, 1948, supplement) and offered their resources for a better-informed American, especially in regard to the following crucial problems: Inflation-Deflation, How Much World Government?, Management-Labor Relations, American-Russian Relations, and Civil Rights. Similarly, librarians have been greatly concerned about the preservation of intellectual freedom, and as a result adopted the revised "Library Bill of Rights," which reaffirms its belief in the basic policies which should govern the services of all libraries.

Library Planning and Surveys. Concentrated efforts were made to translate the various national plans of library groups into action and the latest of the Planning for Libraries Series was completed. This was *The Public Library Plans for the Teen Age*, which blueprints possibilities for specialized public library service to young people, and shows how the public library enriches and reinforces school library service.

The half-way mark was reached in the two-year Public Library Inquiry being conducted by the Social Science Research Council under the direction of Robert D. Leigh. Initiated by the A.L.A., this appraisal of the American public library as a social institution was made possible by a Carnegie Corporation grant. An over-all group of 60 libraries or library systems in cities, towns, and counties of the United States was included in the survey, the results of which are scheduled for 1949 publication by the Columbia University Press. The 15 projects of the Inquiry were divided as follows: a. (basic aspects of the library) personnel, government, processes, use, and finance; b. (producers of library materials and services) book and magazine publishing, industries, government publications, non-theatrical films, music and other records and library music materials, special libraries and technical services; and c. (subsidiary factors) foreign and

international library developments, the evolution of the public library in the United States, the library in relation to the institutions, process and possibilities of adult education, the relation of the public library to the research-library network, and the relation of the public library to the school system.

A survey of salaries and working conditions of library personnel was begun in November by the U.S. Bureau of Labor Statistics in cooperation with the A.L.A. Board on Personnel Administration. Full time professional and non-professional positions in libraries of all types and sizes were covered. Libraries, library services, and personnel were studied in nine southern states by the Tennessee Valley Library Council. These included Alabama, Florida, Georgia, Kentucky, Mississippi, North and South Carolina, Tennessee, and Virginia. Other surveys were conducted at the Universities of Stanford and Minnesota, the public libraries at Wichita and Los Angeles, and the New Mexico State Library.

State and Federal Relations. Laws covering a variety of library legislation were passed. Colorado, Indiana, and Ohio adopted general recodification of their library laws with far-reaching changes. Elsewhere new library laws or amendments to old laws provided for administrative changes, higher library tax ceilings, certification of librarians, the development of county and regional libraries, and increased state aid.

Several states passed enabling laws to permit the use of federal funds and early in 1948 the Federal Library Demonstration Bill passed the U.S. Senate, but not the House of Representatives. It will be reintroduced in the 1949 Congress. The purposes of the bill are: (a) to provide demonstrations of adequate public library service to people now without it or inadequately served, and (b) to provide means for studying various methods of providing public library service primarily in rural areas and for studying the effect of planning on an area basis upon the development of library services. Provisions of the bill are: (a) State library agencies may submit plans for use of federal funds in demonstrating public library service primarily in rural areas, and (b) two types of plans may be submitted; one calling for a basic demonstration using \$25,000 per year for five years in each state, financed entirely by federal funds, or an expanded plan may be added to this which would allow states to match an additional \$25,000 to \$75,000 of federal funds annually for five years. (c) The Commissioner of Education would be required to make annual reports to the Congress upon the operation of the demonstrations and would be required to make a final public report evaluating the demonstrations.

International Relations. A continued interest in this field was manifested by librarians, both in the United States and abroad. Librarians from about 30 countries visited the United States and 67 foreign students attended American library schools during 1947-48. A number of American librarians attended conferences in Europe and Latin America, or went on special missions to Europe and to the Orient. The International Federation of Library Associations convened in England in September and the 1950 meeting will probably be held in the United States in connection with the A.L.A. conference in Washington, D.C., honoring the 150th anniversary of the Library of Congress and the 75th year of the A.L.A.

At the annual conference of the Canadian Library Association, held June 7-9, at Ottawa and at-

tended by 517 delegates, Elizabeth Dafoe, University of Manitoba Library, was elected president. The 1949 conference is scheduled for June 20-24 at Winnipeg. William Kaye Lumb, former librarian of the University of British Columbia, was appointed Dominion Archivist with the special task of planning toward the establishment of a Canadian National Library. Indian libraries are also proposing the establishment of a National Central Library at New Delhi, and discussed this at the 8th All-India Library Conference in October in Nagpur. The Japanese Diet (Congress) Library was established June 5 in Tokyo.

Professional Training and Personnel. Enrollments in the 84 accredited library schools in the United States and two in Canada were 1,889 students in 1948, compared with 1,939 students for 1947. With few exceptions, library schools were engaged in the revision of their programs. The prevalent shortage of librarians was not the primary reason for devising new plans of education but it undoubtedly heightened a profession-wide interest in all aspects of library education. Several conferences on education for librarianship and recruiting for the profession were held and a Joint Committee on Library Work as a Career was formed. While salaries in libraries increased during the year they did not equal the increase in cost of living with the result that *Minimum Library Salary Standards for 1948* were adopted. Due to budgetary measures the Placement Office at A.L.A. headquarters was discontinued September 1 and the A.L.A. Employment Register instituted.

Library Statistics, Books and Reading. The *American Library Directory for 1948* lists 11,334 libraries in the United States, classified as follows: 7,172 public, 1,547 college and junior college, 253 law, 164 medical, 112 institutional, 202 hospital, 193 federal, 173 state, and 518 special. Not included are the libraries in elementary and secondary schools, hospital collections furnished by public libraries, and special industrial libraries. There are 81 libraries of all types in the United States territories and dependencies, and 945 in Canada and Newfoundland. Library schools in the United States and Canada number 41 and there are 204 library organizations.

According to 1947 statistics compiled by the U.S. Office of Education, public libraries in United States cities with a population of 100,000 or more, contained 44,470,573 volumes, had 8,662,725 registered borrowers, circulated 133,241,491 books, and expended \$39,797,351, excluding capital outlay. This is a slight increase over corresponding figures for both 1946 and 1945. Statistics covering 1946-47 college and university libraries, including student enrollment, staff, book stock, circulation, and expenditures were published in the July 1948 issue of *College and Research Libraries*.

"Reading Trends in 1947" and "The Fifty Notable Books of 1947," chosen by librarians, were published in the A.L.A. *Bulletin* for February 1948. The Great Books educational programs, established several years ago, have spread to the extent that these weekly gatherings are attended by over 50,000 people in some 200 cities and towns throughout the country. The Great Books Foundation was formed to coordinate and centralize all activities connected with the selected group of works. The Great Books are defined by the Foundation as those "which provide new and profound insights into the fundamental problems of mankind." For articles covering such book programs see *Library Quarterly* for January 1948, *Wilson Library Bulletin*, December 1947, etc.

School Libraries. Workshops, institutes, and meetings in many parts of the country emphasized library services to children and young people, with several covering elementary school libraries. The publication of *The Public Library Plans for the Teen Age* was noteworthy, as was a companion publication, *A Youth Library in Every Community*.

As a result of state aid, school library programs in several states made considerable progress. Georgia increased its 1947-48 budget of \$150,000 to \$300,000 for next year. New Jersey received \$10,000 for school library books for 1947-48. North Carolina budgeted \$172,326 in 1947-48 and \$196,855 for 1948-49. Virginia provided \$279,165 for 1947-48, of which \$47,253 was for state and film libraries. Wisconsin appropriated \$142,855 and in Indiana, schools which meet certain requirements may obtain up to 75 cents per student for library books.

College and University Libraries. Cooperative enterprises are being developed in various parts of the country; the latest being by Midwest universities with plans for a cooperative storage building, probably at the University of Chicago. Regional library centers are already established at Denver, Philadelphia, the Pacific Northwest (Seattle), Cleveland and the Joint University Libraries (Nashville) as well as the Library of Congress Union Catalog. Policies in cooperative acquisitions are being followed by the John Crerar Library, Chicago, and the Library Council of the state-wide system of the University of California Libraries.

During the year the first books arrived from France, Switzerland, and Sweden under the Farmington Plan, which provides for the acquisition of current foreign publications of research interest. In 1949 it will be extended to cover Norway, Denmark, Belgium, The Netherlands, and Mexico.

Increasing in numbers are the college and university libraries arranging their collections along divisional lines, of which the University of Nebraska is one. In order to give librarians of the country an opportunity to see a divisional library in operation, this university held an institute, at which time building features and divisional operating problems were discussed.

Gifts, Grants, and Buildings. Gifts of book collections and money for the purchase of books or construction of buildings have materially aided libraries and their services throughout the year. Among the gifts were: a collection of manuscripts and books from Ferenc Molnar, Hungarian playwright, to the New York Public Library; 2,000 volumes and manuscripts of the late Rabbi Chaim F. Epstein, St. Louis, to Yeshiva University, New York; two valuable railroad collections from Frank F. Fowle and Stanley Berge to Northwestern University Library; 1,500 volumes on the theater from Herbert Arnold Speiser, to the University of Pennsylvania Library; \$10,000 from the Wherrett Memorial Fund of the Pittsburgh Foundation for science and engineering library material to the Carnegie Institute of Technology; 30,000 documents from Frederick Law Olmsted, landscape architect and city planner, and a remarkable collection of musical manuscripts from Mrs. Gertrude Clark Whittall to the Library of Congress.

A Mohandas K. Gandhi memorial collection came from the Hindustan Association to Cornell University Library; 180 Danish plays and books from Jean Hersholt to the University of California Library, Los Angeles; a \$10,000 art collection from the Reverend Eugene F. Bigler to Kenyon College Library, Gambier, Ohio; manuscripts and letters from the wife of the late Sherwood Anderson to the Newberry Library, Chicago; funds to establish

dormitory libraries from John B. Griffing to Drake University Library, Des Moines, Iowa; a grant from the Central Education Board for social-science collections to the West Virginia Wesleyan College, Buckhannon; the entire Thurlow Weed collection relating to 19th century American political life to the University of Rochester, N.Y.

Also a valuable collection on the history of women from Margaret Sanger to Smith College Library; and the William M. Elkins Library, "the finest collection of Americana in private hands in the world" to the Free Library of Philadelphia. Among the war memorials was the \$100,000 branch-library building (with \$25,000 for renovation) presented to New Orleans by Mr. and Mrs. Harry H. Latter in honor of their son, Milton H. Latter, killed at Okinawa.

Contrasted to the inactivity of the war years, building construction gained a new impetus during the past year. Numerous university and public libraries have long-term plans for new buildings or additions. Among those completed or under construction are: University of California, Princeton University, Colby College, University of Maine, Dana College, Spartanburg Junior College, Virginia Union University, University of Iowa, Harvard University, Massachusetts Institute of Technology, Kansas Wesleyan University, Gustavus Adolphus College, Washington State College, and the public libraries at Topeka, Kan.; Deland, Fla.; Racine, Wis.; Phoenix, Ariz.; Athens, Ga.; Oak Ridge, Tenn.; and Forest Park, Ill.

Publications. During the past year, in addition to the regular periodicals, *A.L.A. Bulletin*, *Booklist*, *Subscription Books Bulletin*, *College and Research Libraries*, and *Hospital Book Guide*, the A.L.A. Publishing Department issued 14 new books and pamphlets and 21 reprints from a total of over 200 projects considered. The films, *New Chapters* and *Use Your Library*, and a set of five children's story records are also sold by A.L.A.

See also *Library Association, American* under SOCIETIES AND ASSOCIATIONS.

—MILDRED OTHEMER PETERSON

LIBYA. A territory of northern Africa. Area: 879,358 square miles. Population (Dec. 31, 1938): 888,401. Of these 763,179 were Moslems, 30,046 Jews, 89,098 Italians, and 6,078 other Europeans (including many Maltese). Chief cities: Tripoli, capital (pop., 108,240), Bengasi (64,641), Misurata (45,097), and Homs (34,940). Ghadames, Sinauen, Mizda, Murzûk, and Ghat are caravan halting places in the interior.

Production and Trade. There are in Libya 3 zones from the coast inland: the Mediterranean, the only one properly suitable for agriculture; the sub-desert, which produces the alfa plant, and the desert, which contains some fertile oases. The chief products are olive oil, dates, fruits, salt, sponges, fish, and tobacco. Other products include matting, carpets, and leather articles. In 1947 the value of imports from Libya to Great Britain was £247,570; exports to Libya from Great Britain £434,448.

Government. Formerly a colony of Italy, but lost by her in the terms of the peace treaty that came into effect on Sept. 15, 1947, in which she renounced sovereignty over all her African possessions. Under Italian rule it had been divided into four coastal provinces—Derna, Bengasi, Misurata, and Tripoli—and a military territory of the south. Since January, 1943, it has been under two British Military Administrations (one at Tripoli and the other at Bengasi), except for the Fezzan region in the south, which is under French occupation.

Events, 1948. The four-power commission investigating conditions and opinion in the former colonies of Italy arrived at Tripoli in March. It heard from the National Council for the Liberation of Libya, a coalition of all five of the parties in the territory (headed by Beshir el Sadawi Bey), that the people wanted not only independence but unity. The Council also asserted that its views represented those of an important segment of Italian and Jewish opinion within the colony. Though the Arab League had been active in organizing local opinion, the Council opposed a United Nations trusteeship, even one administered by the Arab states. The report of the commission, made public late in July, reflected these statements. At the same time, the British were known to have their eye on naval and air bases in Cyrenaica, while the French were anything but anxious to give up their hold on the Fezzan.

A month before the commission reached Tripoli an incident had been created in that city by the Arab Nationalist, or Kutla, Party, the most exalted of the independence groups. When its leaders were arrested and its headquarters searched by the British administration, it became militant and the authorities were obliged to use firearms to quell the resultant riot, in which 5 persons were killed and 17 seriously wounded. Further violence occurred on June 12-13, when anti-Jewish disturbances in the same city resulted in the death of 16 persons and injuries to 50.

In mid-January the British revealed that they had given the United States permission "temporarily" to reopen the airfield at Mellaha, near Tripoli, for use by American military planes requiring refueling and servicing en route to Greece and points in the Middle East. The Soviet government protested to both Great Britain and the United States that this was a violation of the Italian peace treaty, but these protests were rejected.

—ROBERT GALE WOOLBERT

LIECHTENSTEIN. A central European principality. Area: 62 square miles. Population (1945 census): 12,197. Capital, Vaduz (2,020 inhabitants). Chief products: corn, wine, fruit, wood, marble. Main industries: cotton spinning and weaving, leather goods, pottery, and livestock raising. Liechtenstein belongs to the Swiss Customs Union; Swiss currency is used. Budget estimates (1947): revenue 3,115,400 francs; expenditure 3,120,530 francs. Public debt, Dec. 31, 1946, 3,201,348 francs. Reigning Prince, Francis Joseph II (succeeded Aug. 25, 1938). Head of Government, Alexander Frick (Sept. 3, 1945).

LITHUANIA. A republic on the eastern coast of the Baltic Sea. It was proclaimed the Lithuanian Soviet Socialist Republic and admitted into the Soviet Union on Aug. 3, 1940. The United States and Great Britain, however, have not recognized Lithuania's status as a union republic of the U.S.S.R. Area: 31,600 square miles. Population (1940): 2,879,070. Chief towns: Vilnius (Vilna) 207,750 inhabitants, Kaunas (Kovno) 152,365, Siauliai (Shavli) 31,299. Agriculture is the prime occupation of the people. The main crops include rye, wheat, oats, barley, flax, and sugar beets. Livestock raising is important. Manufactured goods include linen fabrics, yarn, cotton, leather, tobacco, plywood, lumber, and sugar. Budget estimates (1948): 1,199,120,000 rubles.

LIVING COSTS AND STANDARDS. See PRICES AND LIVING COSTS.

LOUISIANA. A west south central State. Area: 48,506 sq. mi. Population: (July 1, 1948) 2,576,000, compared with (1940 census) 2,363,880. Chief cities: Baton Rouge (capital), 34,719 inhabitants in 1940; New Orleans, 494,537. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Legislation. The regular session of the Louisiana Legislature which convened on May 10 and adjourned July 8, and the special session lasting 10 days which adjourned October 3, resulted in record-breaking biennial general fund appropriations of about \$365 million, largely for education.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$186,672,000; total expenditure, \$173,899,000.

Elections. Louisiana's 10 electoral votes were cast for Thurmond who had a popular plurality over Truman and Dewey. In the regular Senatorial race, incumbent Democrat Allen J. Ellender was re-elected with no opposition. Russell B. Long, Democrat, was elected at the same time to complete the unexpired term ending Jan. 3, 1951. All 8 House seats remained Democratic. In the State election on April 20, a complete slate of Democrats was elected, including Earl Long—Governor; William J. Dodd—Lieutenant Governor; Wade O. Martin, Jr.—Secretary of State; Bolivar E. Kemp—Attorney General; A. P. Tugwell—Treasurer; L. B. Baynard—Auditor.

Officers, 1948. Governor, James H. Davis; Lieut. Governor, J. Emile Verret; Secretary of State, Wade O. Martin, Jr.; Attorney General, Fred S. LeBlanc; State Treasurer, A. P. Tugwell; State Auditor, L. B. Baynard.

LUTHERAN CHURCH. The National Lutheran Council with 8 national bodies is the agency for two-thirds of Lutheranism in America. The Council is the U.S. National Committee for the Lutheran World Federation, numbering some 60 million adherents on five continents and in 42 countries. The Synodical Conference, consisting of the Lutheran Church—Missouri Synod and four other smaller groups, comprises the other third of Lutheranism.

In America the Council engages in ministry to college students, social services, American missions, public relations, service to military personnel, resettlement of displaced persons, and collection of relief supplies. Lutherans had contributed more than 40 million dollars for war and postwar emergency relief and reconstruction by the end of 1948. The bicentennial observance of organized Lutheranism in America by Pennsylvania Lutherans was the main anniversary of 1948.

Major task before American Lutheranism was to continue support of its homeless in exile and to find them immigration opportunities in Canada, Australia, the United States, and South America. The rising oppression by totalitarianism in eastern Europe and the Far East was noted in the arrest and conviction of Bishop Lajos Ordass of Hungary and the overrunning of mission fields by Chinese Communist armies. These pressures were felt sensitively by Lutheran churchmen engaged in a world-wide program of evangelization. Three well known church leaders died during the year: Dr. Ralph Long, Executive Director of The National Lutheran Council; Dr. Daniel Nelson, Lutheran World Federation Commissioner to China, in a piracy plane crash; Bishop Frank Wheatcroft of the Lutheran Church of France.

The Lutheran churches in America have a total baptized membership (1947) of 5,836,147 with 16,375 churches and 14,805 ministers. Excluding

elementary schools, there are 94 educational institutions with 35,987 enrolled students. Foreign missionaries number 1,140; confirmed members of mission churches, 170,237. Church properties in the United States were valued at \$539,909,317. Contributions totaled \$131,942,030. Headquarters of the National Lutheran Council, 231 Madison Ave., New York 16, N.Y.—CARL E. LUND-QUIST

LUXEMBOURG (Luxemburg). A grand duchy between Belgium, France, and Germany. Area: 999 square miles. Population: (1947 census): 286,786. Capital: Luxembourg, 81,590 inhabitants. Agriculture was the occupation of 32 percent of the people in 1946. Oats, potatoes, wheat, rye, and grapes comprise the chief crops. Livestock (1946) included 118,080 cattle, 78,292 pigs, 15,157 horses, 10,447 sheep, and 1,733 goats. The chief industries are mining and metallurgy. In 1947 output (in metric tons) of iron ore was 1,994,427, pig iron 1,818,160, steel 1,714,297. Budget estimates (1948): revenue 3,511,567,000 francs; expenditure 3,914,299,029 francs. Consolidated debt (1947): 1,787,366,081 francs. On Jan. 1, 1948, an economic union (Bencelux) of Belgium, the Netherlands, and Luxembourg came into force. Foreign trade statistics for Luxembourg are included with those of Belgium.

The grand duchy is a constitutional monarchy, with the hereditary sovereignty being in the Nassau family. A democratic form of government is provided by the Constitution of 1868 (amended in 1919). There is a chamber of deputies of 51 members elected for 6 years by universal suffrage. The right to organize the government rests with the sovereign. A council of state of 15 members is chosen for life by the sovereign. Ruler: Grand Duchess Charlotte. Prime Minister, Pierre Dupong (Christian Socialist); Foreign Affairs, Joseph Beck (Christian Socialist).

MACAO. A Portuguese colony in southern China, comprising the island of Macao and the small adjacent islands of Taipa and Colôane, at the mouth of the Canton River. Area: 6 square miles. Population: 374,737, including 9,000 Portuguese (1940). Fishing is the most important industry, engaging more than 40,000 people. The chief exports include cement, fish, and preserves.

MACHINE BUILDING. The building of machines is becoming more and more dependent on machine tools as they replace operations formerly done by hand. While this is having the effect of reducing the percentage of highly skilled men needed in the industry it is making even greater skill necessary in many of the operations. Specialists, trained in the use of one or two machines, have replaced the all-around men in many plants. But the all-around mechanic is more necessary than ever in keeping the more intricate machines in operation. Since we must have machine tools to produce all other types of machines as well as their products, both the skilled mechanic and the machine operator are very necessary to our progress.

There has been an increase in the number of machines which can perform operations on more than one piece at the same time. This began with the multiple-spindle automatic screw machine but is being extended to other machines such as the gear cutter and the lathe.

Steel castings, which at one time were replacing steel forgings to a great extent, are meeting strong competition with forgings in many fields. This is particularly true in the oil-well field where pipelines are under heavy pressure and failures or leak-

age is very expensive. Many of the valves and other fittings used in well-known oil-well "Christmas Trees" are now made of forgings instead of castings. The cost of the forgings has been reduced by improved methods of machine forging, which are receiving careful attention.

Among the cost-reducing methods is the use of robot, or automatic handling devices on some of the heavy forgings. A huge 5,000 ton hydraulic forging machine can now be handled by remote control from a "pulpit" where pushbuttons enable the operator to work huge tongs which hold the forging, moving the work in and out of the press at will. This greatly reduces the cost of direct labor, which in this case would be idle much of the time.

Surface finishing is another item of manufacture which is undergoing drastic changes. While the profilometer, a machine to read the imperfections in the smoothness of a surface, has been in use for some time, there has been no standardizing of the work until quite recently. This is quite an accomplishment, owing to the many conflicting elements which are part of the problem of surface finish. These include roughness, which depends on the nearness of surface grooves or scratches to each other, the depth and direction of these imperfections, and other factors.

A frequent method in surface finishing is to compare the finish with standard steel blocks machined to different finishes. Polish is not necessarily part of a good finish. The accuracy of modern machining can be judged by the fact that some of the scratches or imperfections can be reduced to a few millionths of an inch.

After a part has been finished it must be protected against corrosion, which can ruin the best of finishes. One steel concern has saved a \$40,000 annual loss from this source by air-conditioning the department containing the polished steel parts. The previous loss was caused by pinpoint corrosion after finishing.

Screw Threads. The importance of screw threads can hardly be overestimated. They are used to hold parts together, in sizes so small as to be hardly visible, in watches and some fine instruments, and also in the assembling of machinery weighing many tons. After many years of consultation and strenuous work we are on the verge of having standard screws which can be interchanged in British and American machines. This is equally valuable in peace and war. The British will adopt our 60° thread angle and we will use their rounded form for the bottom of the threads, which adds strength, as it eliminates any sharp corner from which cracks could start. The rounded top of the thread is more or less optional, as it does not affect the fit. And with the growing use of ground threads, made with abrasive wheels having a crushed face, the new form is the easiest to produce. It will be known as the "Unified" thread.

We also have another new thread for use on studs and bolts. Known as the "Lok-Thred," it has a depth of not much over half the standard thread, and an angular bottom face so that the nut bears on the 6° surface and puts the stress on the body of the bolt rather than on the thread itself. It somewhat resembles the Dardalet thread which has had only a limited use.

Castings. Foundry work is also changing. One large mechanized foundry is using synthetic sand while another uses a dry, lean mixture of sand and cement for its molds for large castings. After pouring, the molds are broken up and the material used again, with a little conditioning.

A new development in precision castings is being used to produce the rotors for the Buick Dynaflo transmission, this being known as the "Antioch" process, not to be confused with the "lost wax" or "investment" process, being used in other industries. The new process uses plaster molds which give very accurate castings of exceptional smoothness, free from porosity, and which are homogeneous and compare in strength with sand cast iron. The efficiency of these rotors depends largely on the accuracy of the blade form. This method saves a huge investment in special tools necessary to produce them by machining methods.

Carbide Drills. Carbide tools continue to be used in more and more operations. Their use includes not only the cutting edges of tools but also wear strips on boring bars and similar tools where guides must be provided. One development is a single-lip drill by the Carbology Company, to be used in shallow as well as in deep holes where this type of drill has been used in the past. It is designed to secure maximum results where sufficient speed is available. Early users of carbide tried to adapt it to the cutting edges of drills but without any great success. Presumably the newer types of carbide are better suited for this work.

Saving Idle Time. With the increase in cutting speeds the time of handling work in and out of the machine becomes more important than before and affects production to a marked degree. Similarly, time lost between different cutting operations affects the output per hour or per day. To test the advantages of saving as much of this time as possible the Warner & Swasey Company equipped a small turret lathe with a motor which could start, stop, and reverse under a heavy load. A lathe was then built to match the motor. All functions except positioning are governed by an automatic drum on the end of the turret slide opposite the turret. Four cam drums are geared to the turret and index with it. Spindle reverse is controlled within $\frac{1}{8}$ of a revolution, eliminating the need for collapsing taps and dies. These changes have greatly reduced idle time and so have increased the output of the machine.

Spinning. The spinning process, which is usually confined to the making of a few sheet metal parts to save the expense of punches and dies, is now being used as a production process by the International Harvester Company. They have developed an automatic spinning machine for making the skimmer disks for their cream separators, more satisfactorily and at a lower cost than was possible with the presses formerly used.

Powdered Metal. Powdered metal parts, impregnated with oil, are being more widely used. Beginning with small bronze bearings, the process now extends to such iron parts as pistons for shock absorbers and contact plates in clutches. Powdered bronze bearings for the steering assembly, windshield wiper cross-shaft, water-pump bushings, and similar parts of the Ford, Mercury, and Lincoln cars are now in use. These parts are at least as strong as solid metal and solve many lubrication problems. Powdered metal parts are also being made in larger sizes than ever before.

Among the minor improvements, but one that can be of great assistance in the shop, is the new adhesive tape which is being used to bond metal, fiber, wood, and plastics, and which has a strength of 3,500 lb. per square inch. Another development is the double-faced tape which is used to hold work in place on face plates firmly so as to permit light machining of metal parts which would be difficult to hold by the usual methods.

—FRED H. COLVIN

MADAGASCAR. A French island colony in the Indian Ocean off the southeastern coast of Africa, from which it is separated by the Mozambique Channel. Area: 241,094 square miles. Population (1946): 4 million. Nossi-Bé and Sainte Marie are considered parts of Madagascar, whereas the Glorious Islands, and the islands of Kerguelen, Crozet, St. Paul, Amsterdam, and other islands are dependencies. The Comoro Islands became an autonomous territory in 1946, under partial authority of the High Commissioner of Madagascar. Tananarive (1946 pop. 163,079) is the capital, Tamatave, the chief port. The official language is French.

Education and Religion. Education is compulsory up to the age of 14. In 1947 there were 1,040 official schools with a total of 120,000 pupils. Native institutions of higher learning include medical, industrial, agricultural, and administrative schools. There are 3,493 Protestant, and 1,867 Roman Catholic churches, also 75 mosques.

Production and Trade. The majority of the natives are engaged in agriculture and cattle raising. Livestock (1945): 5,948,000 cattle, 421,000 pigs, and 319,500 sheep and goats. Principal crops in 1945 were (figures in metric tons): rice (770,000), coffee (28,000), sugarcane (230,000), vanilla (653), maize, tapioca, coconuts, and sweet potatoes. The extensive forests yield rubber, gum, resins, and plants for medicinal, tanning, and dyeing purposes. Minerals include: gold, mica, precious stones, phosphates, and graphite. The 1946 mineral output was valued at 96,495,026 francs.

Chief exports are vanilla (21 percent), coffee (15 percent), cloves, honey, and gold. Total imports in 1946, \$31,023,000; exports, \$39,671,000. Textiles, gasoline, machinery and parts, and paper are the chief imports.

Finance. The 1947 general budget estimates balanced at 1,168,569,340 francs; the provincial budget amounted to 955,889,800 francs.

Government. Madagascar and dependencies, a French colony since 1896, is administered by a Governor General appointed by the French Minister of Colonies. Under the 1946 reorganization, the colony is divided into 5 provinces with a general assembly at Tananarive. The colony is represented in the French National Assembly, the Council of the Republic, and the Assembly of the French Union, by 5 deputies to each. Governor General: Pierre de Chevigné.

MADEIRA. A district (Funchal) of Portugal, comprising a group of islands (Madeira, Porto Santo, and three uninhabited isles) in the Atlantic about 550 miles southwest of Lisbon. Area: 314 square miles. Population (1940): 250,124. Capital, Funchal (on Madeira), 48,493 inhabitants. The chief products are wine, sugar, embroidery, linen, leather, straw hats, baskets, fish, and fruits. Cereals, textiles, and coal are the principal imports.

MAGAZINES. In 1948, for the first time in seven years, the magazine industry began to see some breaks in the prosperity it had enjoyed for so long. Statistically the general picture was deceptive, for many critical problems lay hidden behind the all-time high advertising and circulation volume many magazines could boast. And to replace such problems as inadequate paper supply and printing facilities, both now things of the past, were difficulties more basic and serious. While paper was plentiful and of improved quality, it was taking up to 5 percent more of the total income received by magazines than in 1947, and printing costs had risen up to 25 percent. Even though record

amounts were received from circulation and advertising, much of this could be accounted for by the increases in advertising rates and single copy and subscription prices which a large number of publications had put into effect.

Advertising. Almost all magazines carried less lineage in 1948 than in 1947. There were some notable exceptions, such as *Look*, *Better Homes and Gardens*, *Woman's Home Companion*, *Popular Science*, *Business Week*, and *Holiday* (up 80 percent). But lineage in *Esquire*, for example, dropped 30 percent in 1948; *Redbook* dropped 20 percent; *Vogue*, *Mademoiselle*, *Glamour*, *Charm*, *Harper's Bazaar*, showed decreases of 20 percent and more in lineage. This was particularly serious in view of the fact that the point at which publications break even is higher because of increased production costs. In spite of this general downward trend, Curtis Publishing Company, because of an efficient new plant, was able to increase its profits.

There were about 12,500 national magazine advertisers in the country, spending a total of over \$460 million in magazine advertising during 1948. The return of the buyers' market and more active competition will make it necessary for industry and business to rely even more heavily on national advertising in the future. But the increased budgets for national advertising will be spent with great care and the competition by publications for national advertising is sure to be tremendous. Even before the returns of the presidential elections shook the faith of business in polls and market surveys, there were definite signs that advertising managers were looking for more specific yardsticks to help them evaluate possible media.

The Magazine Advertising Bureau's survey of magazine audiences made early in 1948 failed to satisfy advertising executives or to quiet their general dissatisfaction with the information that had been given them by publishers. Because of this the Association of National Advertisers made its own survey, released at the end of May as the *ANA Magazine Rate and Circulation Study of Fourteen Magazines*. The magazines included in this study were *American*, *American Home*, *Better Homes and Gardens*, *Collier's*, *Cosmopolitan*, *Good Housekeeping*, *Ladies' Home Journal*, *Life*, *Look*, *McCall's*, *Newsweek*, *Saturday Evening Post*, *Time*, and the *Woman's Home Companion*. In this report gauges were suggested to help advertisers select magazines which would give them better value for their advertising dollars. The report stressed the use of accurate mathematical measurements such as the rate per thousand circulation, promotion methods, character and duplication of magazine audiences. The report criticized the intangible measurements such as "readers per copy" upon which many publications had relied heavily during recent years to secure increased advertising.

In spite of the drop in advertising lineage generally and the feeling that magazines should try other alternatives for meeting costs than raising advertising rates, a number of magazines either raised their advertising rates again during the last quarter of 1948, or announced increases effective early in 1949. These included *Better Homes and Gardens*, *American*, *School Management*, *Look*, *Woman's Home Companion*, *Redbook*, *Mechanix Illustrated*, *McCall's*, *Holiday*, and others. In most cases circulation guarantees were also upped.

Circulation. Magazines have fared generally better in circulation than in advertising, with several showing notable gains during 1948. Most impressive advance was made by *Reader's Digest* which now sells over fifteen million copies each month,

including domestic and international editions—two million more than the previous year. But despite these increases and the gain in circulation dollar volume caused by higher subscription and newsstand rates, there is a widespread effort in the magazine industry to boost circulation even beyond the present record peaks. Some of the techniques for selling subscriptions that were in use before the war, were resumed, such as special introductory offers at reduced rates. In 1948 the *Atlantic Monthly* offered seven issues for \$2.50; *Look*, 28 issues for \$3.00; *Popular Science* gave an eight-month introductory subscription for \$1. Other publications, such as *Science Illustrated*, offered savings for long-term subscriptions. *Newsweek* tested five different 40-week special offers at varying rates for different groups. It was planned to arrive at some standard introductory rate by averaging the returns on the various lists.

In 1947, climaxing the reading boom started during the war, over 5,000 million magazines were bought by the American people, but the 1948 figure dropped well below that peak. In spite of this general loss, and even with so many increases in newsstand prices, there were forty-eight magazines which sold over a million copies per issue during 1948. However, at the year's end there were indications that a limit to the price raises which the public would absorb had been reached. In many cases newsstand sales fell off because of higher single-copy prices, and substantial drops in circulation resulted. The *Ladies' Home Journal* gave its advertisers a rebate of 5 percent for several issues in which its circulation guarantees had not been met.

The fight for new readers during 1948 led to practices out of use since before the war. Free examination copies were given; copies of magazines were sent for one or two issues after expiration of subscriptions. And the pressure to protect circulation guarantees to advertisers led to the resumption of door-to-door soliciting for subscriptions, in an effort to increase the proportion of subscription to single-copy buyers. With this house-to-house canvassing came the many abuses which are commonly connected with this operation. Though most of the complaints were against the solicitors themselves, who tended to be over-zealous, unscrupulous, and to use fake appeals and sympathy sales devices, the public relations of the entire magazine industry stood to suffer.

To combat this, the National Association of Magazine Publishers has been trying, through their Central Registry Board (set up but little used since 1940), to eliminate the bad taste left by unscrupulous solicitors. Local Better Business Bureaus have cooperated with them closely in their program of public relations and in their efforts to have solicitors and subscription agencies abide by their Articles of Agreement. Complaint forms were made available to the Better Business Bureaus which could be filed with the Central Registry against any members. Under the Articles of Agreement penalties for those who violate the code include warning letters, payments of damages of not more than \$500 for any single complaint, and expulsion from the Board. Though most of the complaints so far have been about nonfulfillment of subscriptions, the complaints about solicitors have proved more damaging to the industry. The National Association of Magazine Publishers is particularly anxious to enforce its code in order to forestall local restrictions against all magazine solicitation.

The Comics Magazines. The NAMP was not the only magazine executive group that felt impelled

to set up a code of ethics. During 1948 some of the heaviest criticism against any medium of communication was leveled against comics magazines. Such eminent men as Dr. Francis Wertham, noted psychiatrist (in an article in the *Saturday Review of Literature* in May, later reprinted in the *Reader's Digest*), John Mason Brown, and many leading educators and penologists criticized the comics as sources of juvenile delinquency, the "marijuana of the cradle," etc. In New York State, Senator Benjamin Feinberg, majority leader of the State Legislature, announced that he would sponsor a bill to deal with undesirable comics. To combat this barrage of criticism, fourteen of the thirty-five publishers of comics magazines, "realizing their responsibility to . . . millions of readers and to the public," formed the Association of Comics Magazine Publishers, Inc., which put forth a public-relations program to answer critics of this large sector of the magazine industry. This group set up a code of ethics for the comics magazine industry and asked all of its members to submit copies of their comics titles for review. The Association also appointed a committee of responsible leaders and educators to act as advisors to the comics magazine industry. The Comics Code which was worked out by the ACPMP urged the publication of comics magazines that contained only good wholesome education or entertainment. The Code provided the following restrictions in comics magazines: (1) no sexy comics or indecent drawings; (2) crime should not be presented to show details and methods of crime, nor should it create sympathy for the criminals rather than the law; (3) no torture scenes; (4) no vulgar or obscene language and a minimum of slang; (5) divorce should not be made alluring or humorous; (6) no ridicule of any religious or racial group.

Other comics publishers took steps to correct the abuses of their industry and to ward off the possibility of increased legal restrictions against the sale or distribution of their products. Already many cities have put in rigid ordinances against comics, and others have censorship committees. Los Angeles County prohibits the sale of comics dealing with murder, burglary, arson, kidnapping, or assault with dangerous weapons. Detroit and Hillsdale, Michigan, have banned 36 titles under a state law outlawing "obscene, indecent, and immoral literature." Other ordinances are expected in New York City, Kansas City, Cleveland, Cincinnati, and New Orleans.

In New Orleans, a report to the Mayor on comics magazines suggested that the solution lay only in the voluntary cooperation and self-regulation of comics book publishers, wholesale distributors, retailers, parents, and organizations. It was also suggested that an advisory committee of parents and city officials be formed.

The National Comics Publications, Inc., one of the largest comics publishing companies, ran a series of full-page advertisements in the *Saturday Evening Post* to answer comics critics. They pointed out that the increase in comics magazine titles to a total of 300 and the consequent competition encourages some publishers to use lurid and sensational features, but that well-edited comics can be a force for good among children.

Foreign Markets. In addition to the drive for domestic business, there has also been a spurt in overseas sales of magazines. *Omnibook* added foreign editions in Australia and France; the international editions of *Reader's Digest* increased from 5 to 8 million. Macfadden Publications was still a giant in overseas sales, with their eleven foreign

editions selling over 60 million annually. *True Story* represents the bulk of their sales, some 50 million annually. The rest of the sales are made up from the Australian and British editions of *True Romances*, the French edition of *Super Detective*, and the Australian edition of *Photoplay*. Seven countries are producing *True Story* locally, mostly as straight translations of the U.S. magazine. Most stories in *True Story* emphasize emotion and not scene, and therefore they have a common denominator suitable to many countries.

A big spurt in overseas sales of magazines can be expected as the result of a \$10 million fund made available by the Economic Cooperation Administration to guarantee new investments made abroad in "informational media." The purpose of this fund is to overcome the dollar shortage in certain foreign countries by enabling American producers of books, magazines, newspapers, and films to accept national currencies for the sale of their products abroad.

Another movement designed to increase understanding of the American way of life abroad by sending United States publications overseas, was a program set up through the Civil Affairs Division of the United States Army for distribution of American magazines, usually newstand returns, through the United States Information Centers and reading rooms in occupied areas, in Germany, Japan, Austria, and Korea. Practically all general, business, trade, and professional magazines are welcomed, but not pulps, comics, or controversial political magazines. Pressure was put on the Government to allot a fund to pay for the shipment of such magazines. This would be considered part of the State Department's Voice of America program. It is understood that both the Senate and the House agreed tentatively on \$3 million for this purpose.

Still selling widely in Germany were the three magazines published by the U.S. Military Government—*Heute*, a picture magazine, *Der Monat*, a political monthly, and *Neue Auslese*, a cultural digest—supplementing *Die Neue Zeitung*, the three-times-a-week flourishing newspaper published under the same auspices.

Suspensions. A number of magazines were suspended or discontinued. Notable among those discontinued was *Pic*, which in spite of its 622,000 monthly circulation was dropped in December by Street and Smith to divert paper and press time to the year-old Street and Smith publication, *Mademoiselle's Living*. '48, *The Magazine of the Year*, the cooperative undertaking which had gone through a number of reorganizations, was finally discontinued. *Kaleidoscope*, the spectacular fashion magazine, was suspended after publishing three issues. *Salute*, after undergoing several changes in the past few years, stopped publication. *Junior Bazaar* combined with *Harper's Bazaar*; and *Everywoman's*, the magazine distributed through independent groceries, was suspended temporarily.

Among other magazines suspended were *Nuances*, *Best Stories*, *Our Army and Our Air Force*, *The Span*, *Countrybook*, *Catholic Life*, *Reader's Scope*, *Shock*, *New Quarterly of Poetry*, *Hippocrene*, *Go*, *Briarcliff Quarterly*, *South*, *Mammoth Adventure*, *Mammoth Detective*, *The Smart Traveler*, *International Digest*, *The American Woman*, *Silver Star*, *Quest*, *Pilot*, *Sports Stars*, *New Masses*, and *Chimera*.

New Magazines. 1948 was the first year in some time that did not see a flush of new magazines. But in spite of the unsettled state of the industry, there were some new magazines started or announced. Dell Publishing Company was preparing

Sports Illustrated (first issue dated February, 1949). This is *Life* size with 50 percent text and 50 percent pictures, designed to cover the whole world of sports from the point of view of both spectator and participant. Circulation guarantee for the first issue is 400,000 copies. *Sports World* will be published in January by Hillman Publications, Inc. Also noteworthy is *Nation's Heritage*, which will begin with the January, 1949, issue. This lavish magazine, designed to give a real picture of the heritage of America, is backed by B. C. Forbes & Sons, and will sell for \$150 a year, \$25 a copy.

Other new magazine ventures include *Clue*, *4-11 Life*, *Radio Stars and Television*, *Bridgroom*, *The Wedding Magazine for Men* (to be published by *Esquire* beginning with the March, 1949, issue), *Television Guide*, *Tele-View*, *Tele-Views*, *Tele-Viewer*, *Physics Today*, *New Sporting Goods Products*, *Two Way Trader*, and *Happy Marriage*.

Editorial changes. Several magazines made changes in editorial slants or physical design to try to attract new readers and keep old ones. *Liberty* started a new "Home Section" with the May issue, carrying brand names and prices. *Harper's* came out with a new size and format. *Fortune* changed its editorial emphasis entirely and will now concern itself with "assisting the successful development of American business enterprise," instead of "mirroring industry." A new *Fortune* feature, "Business Roundup," gives the readers a bird's-eye view of U.S. business during the month. *Esquire* revamped its format, added service features, and will include a regular travel section. *Collier's* changed format and cover design and is now paying \$1,000 to authors for each issue's star story.

The real problem editorially is that continued increased costs may lead to cuts in editorial features, stories, pictures, or articles.

There were many other noteworthy events in the magazine industry during 1948. *World Report* combined with *U.S. News* and changed its name to *U.S. News and World Report*. One hundred and seven educators, lawyers, statesmen, and writers signed an appeal to revoke the ban which had caused the *Nation* to be withdrawn from the New York City public schools, stating that this was a clear matter of freedom of the press. The ban was upheld and the case was taken to the New York State Education Department, which at the end of the year had not acted upon it. *Ladies' Home Journal* carried \$2,677,260 worth of ads in its October issue, probably the largest advertising volume ever carried by one magazine in a single issue.

Theatre Arts, which was bought by Alexander Ince in January, 1949, was sold by him to a Chicago syndicate headed by John D. MacArthur. *Time* celebrated its 25th Anniversary with its Mar. 8, 1948, issue. *Omnibook* completed ten years of publication. 1948 was the Diamond Jubilee of the *Woman's Home Companion*. Its public service program—articles on important social and health problems—aroused much interest and action. These were widely reprinted, and mentioned by radio commentators. Some of the subjects covered were "Women Alcoholics," "The Crisis in Education," "Better Teeth," etc. With the February, 1949, issue, *Mademoiselle's Living* will become a bi-monthly. Industry spent \$108,849,752 last year on its 6,000 house organs. This subsidized circulation totals almost fifty million monthly. Magazine publishers are concerned by the almost certain prospect, early in 1949, of increased second-class postal rates. As the year closed, magazine publishers felt that profits for 1949 would decrease below those of 1948.

—A. S. BURACK

MAINE. A New England State. Area: 33,040 sq. mi. Population: (July 1, 1948) 900,000, compared with (1940 census) 847,226. Chief cities: Augusta (capital), 19,360 inhabitants in 1940; Portland, 73,643. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$55,181,000; total expenditure, \$55,369,000.

Elections. Maine's election was held September 13. Its 5 electoral votes went to Dewey who gained a popular majority of about 35,000 over Truman, Wallace, and other contenders. Mrs. Margaret Chase Smith, Republican nominee, won the Senatorial race, and all 3 House seats remained Republican. In the contest for governor, the Republican, Frederick G. Payne, won.

Officers, 1948. Governor, Horace A. Hildreth; Lieut. Governor, None; Secretary of State, Harold I. Goss; Attorney General, Ralph W. Farris; State Treasurer, Frank S. Carpenter; State Auditor, Fred M. Berry; State Comptroller, Harlan H. Harris.

MALAYA, Federation of. A federation of 9 Malay states and the settlements of Penang and Malacca, under the protection of Great Britain. The Federation of Malaya was established on Feb. 1, 1948, to supersede the Malayan Union, which came into being in 1946. The area and population (1940-41) of the states and settlements are listed in the accompanying table.

<i>Division (Capital)</i>	<i>Area</i>	<i>Population</i>
Johore (Johore Bahru).....	7,500	737,509
Kedah (Alor Star).....	3,660	515,758
Kelantan (Kota Bharu).....	5,750	390,332
Malacca (Malacca).....	640	236,087
Negri Sembilan (Seremban).....	2,580	296,009
Penang (Penang).....	13,820	221,800
Perak (George Town).....	390	419,047
Popok (Ipoh).....	7,980	992,891
Perlis (Kangar).....	316	57,776
Selangor (Kuala Lumpur).....	3,160	700,552
Terengganu (Kuala Terengganu).....	5,050	211,041
Total.....	50,840	4,248,565

Preliminary figures from the 1948 census estimates the total population at 5,808,247, including 2,608,975 Chinese, 2,214,295 Malays, 533,961 Indians, 9,986 Eurasians, and 9,150 Europeans. Capital of the Federation of Malaya: Kuala Lumpur (1939 pop., 138,425).

Education and Religion. There were, in 1946, a total of 1,014 Malay government schools and 88 private schools with 126,000 pupils; 976 Chinese schools with 172,000 pupils; 724 Indian schools with 12,873 pupils; 187 English schools with 60,967 students. The English schools provide secondary and professional education.

The majority of Malays are Sunni Moslems under the religious leadership of the various state rulers. Hinduism is professed by most of the Indians, while some Indians and Chinese adhere to the Buddhist religion. Christian churches are to be found in the larger towns, their congregations including a large number of Asiatics.

Production. Chief agricultural products are rice, copra, palm oil and kernels, tea, and pineapples. The production (1946) was: rice, 225,045 metric tons from 789,640 acres; tea, 316,000 lb.; palm oil, 11,756 tons and kernels, 932 tons. Rubber yield in 1947 was 656,400 metric tons (1948: 11 months, 587,300). Fisheries are important and yielded an estimated 40,000 tons in 1946.

Minerals include coal, tin ore, phosphate, manganese, bauxite, scheelite, and wolframite. Tin out-

put totaled 27,480 metric tons in 1947 (1948: 9 months, 32,900); coal, 224,676 tons in 1946. Trade (1947): imports M\$1,367,500,000; exports M\$1,319,500,000.

Government. The Federation is composed of the nine Malay States and the two former settlements, Malacca and Penang with Province Wellesley. Any other territory may be admitted into the federation by agreement. The central government comprises a High Commissioner (to whom power is delegated jointly by the King and the Malay rulers), a Federal Executive Council, and a Federal Legislative Council. The Legislative Council is composed of 75 members: 14 official, 50 unofficial, and the remainder presidents of the Councils of State, Settlement Councils, and ex-officio members. In addition the ruler of each state has concluded agreements with the British Government and has undertaken to promulgate a written constitution for his state. A Conference of Rulers was to meet with the High Commissioner at least three times a year.

The Federation agreement establishes a federal citizenship "designed to draw together with a common loyalty all those who can be said to regard Malaya as their true home." Such citizenship will be a requirement for membership of unofficals in the Federal Legislature and also in the Councils of State. The first High Commissioner, Sir Edward Gent, was sworn in on Feb. 1, 1948. He died on July 4, 1948, and was succeeded in September by Sir Henry Gurney. Effective May 1, 1948, the posts of Governor General of Malaya and Special Commissioner in South-East Asia were amalgamated in that of Commissioner General for the United Kingdom in South-East Asia. Commissioner General: Malcolm MacDonald.

Bibliography. For an account of the Communist uprising in Malaya during the last six months of 1948, see "The Communist Uprising in Malaya," *Far Eastern Survey*, Dec. 22, 1949; p. 281-286 (American Institute of Pacific Relations).

MALTA. A British colony in the Mediterranean, comprising the islands of Malta (95 sq. mi.), Gozo (26 sq. mi.), and Comino (1 sq. mi.): a total area of 122 square miles. Civil population (1948 census): 307,000. Capital: Valletta, 22,779 inhabitants. Education (1947-48): 104 primary schools and 43,000 pupils; 60 (12 state-aided) private schools and 10,500 pupils; 4 secondary schools and 965 girl students; one lyceum and 996 boys; and the Royal University with about 300 students. English and Maltese are the official languages.

Production and Trade. Agriculture, cattle raising, and fishing are the chief occupations. The principal crops include wheat, barley, potatoes, vegetables, fruits, and cotton. Total imports (1946, £12,953,413; exports £707,458).

Government. Revenue for 1946-47 was £4,890,748; expenditure, £4,540,263. The 1948 budget estimated expenditure at £5,095,455. A new constitution conferring responsible government on Malta went into operation on Sept. 22, 1947. General adult suffrage is embodied in the constitution. The Legislative Assembly consists of 40 members, 5 from each of the 8 electoral districts. The Cabinet consists of not more than 8 ministers who constitute the Executive Council. Matters relating to foreign affairs and defense are reserved to the governor. Prime Minister: Dr. Paul Boffa. Governor: Sir Francis Douglas.

MANCHURIA. The northeasternmost section of the Republic of China. In September 1945, Manchuria was divided into the following provinces: Liaoning,

Kirin, Heilungkiang, Liaopei, Nunkiang, Hsingan, Sungkiang, Hokiang, and Antung, with a total area of 503,013 square miles. Chief cities: Mukden, Harbin, Changchun, the capital, and Antung. The chief crops include soybeans, kaoliang, millet, maize, and wheat. Minerals include iron, coal, gold, magnesite, and oil shale. See CHINA.

MANGANESE. Imports of manganese ore into the United States were considerably lower in 1948 than in 1947, and well below the rate of consumption required for the current high steel ingot rate. Receipts of metallurgical and battery grades of ore in the first nine months totaled only 897,076 net tons, with a manganese content of 420,295 tons. Battery grade imports were 7 percent of the total. Consumption in the period was 1,011,131 tons of ore. The difference was made up from withdrawals from bonded warehouses (previously imported), and by reductions in the inventories of dealers and producers.

Imports during the nine months were very little more than half the 1947 imports of 1,541,818 tons. It is estimated that current steel operations require 600,000 tons of metallic manganese annually, requiring imported ores to the extent of 1.3 million tons.

The bulk of the imports during the period was shipped by the U.S.S.R., 294,262 tons. Other principal ore shipping countries were: South Africa, 175,068 tons; India, 148,842 tons; Brazil, 111,085 tons; Gold Coast, 80,059 tons.

Domestic production of ore containing 35 percent manganese or more totaled 98,500 tons in the nine month period. This tonnage came largely from Montana, where high grade nodules are produced at Anaconda and the Philipsburg district where battery grade ores are mined.

—JOHN ANTHONY

MANITOBA. A prairie province, situated in about the center of Canada. Area: 246,512 square miles, including 26,789 square miles of fresh water. Population (1948 estimate): 757,000. Leading religious denominations: Roman Catholic, 203,259; United Church, 194,001; Anglican, 125,076; Lutheran, 48,213; and Presbyterian, 43,073. In 1946 there were 18,794 live births, 6,537 deaths, and 8,594 marriages. Education (1945-46): 151,264 students enrolled in schools and colleges. Chief cities: Winnipeg (capital), 229,045 (1946 census); St. Boniface, 21,613; Brandon, 17,551; Portage la Prairie, 7,620.

Production. The gross value of agricultural production for 1947 was \$193,358,000. Value of field crops (1947): \$144,651,000 from 6,807,000 acres. Chief field crops (1947): wheat, 42,000,000 bu. (\$57,960,000); oats, 39,000,000 bu. (\$28,080,000); barley, 34,000,000 bu. (\$35,360,000); flaxseed, 5,200,000 bu. (\$27,248,000). Livestock (June 1, 1947): 778,600 cattle (\$59,776,000); 195,300 horses (\$11,447,000); 347,200 swine (\$7,806,000); 181,000 sheep (\$1,851,000); 8,224,100 poultry (\$8,067,000). Fur production (1946-47): \$3,099,159. There were 633 fur farms in 1946, with fur animals valued at \$2,367,444. Marketed value of fisheries production was recorded at \$4,871,037 in 1946. The total value of creamery butter produced in 1947 was 26,265,000 lb., valued at \$13,526,000. There were 3,590,000 lb. of factory cheese produced in 1947, with an estimated value of \$1,620,000. According to the 1947 estimate, the total farm value of poultry, meat, and eggs was \$16,135,000. The value of 5,180,000 lb. of honey produced in 1947 was \$1,450,000.

Manufacturing. The gross value of manufactured products in 1946 was \$351,887,099. There were 38,367 persons employed in 1,357 establishments. Salaries and wages paid were \$61,018,345. Cost of materials used totaled \$223,096,935. The leading industries in 1946 were slaughtering and meat-packing, flour and feed mills, railway rolling stock, and butter and cheese.

Government. For the fiscal year ended Mar. 31, 1948, revenues were estimated at \$29,495,052 and expenditures were estimated at \$29,405,384. For the year ended Mar. 31, 1947 (11 months) revenues amounted to \$24,019,948 and expenditures were \$19,737,346. The executive power is vested in a lieutenant governor who is advised by a ministry of the legislature. In the Legislative Assembly there are 58 members elected for a five-year term by popular vote of the adult population. Party standing at the provincial election of Oct. 15, 1945, was 43 Coalition (25 Liberal Progressives, 14 Progressive Conservatives, 2 Social Credit, 2 Independent) and 12 Anti-Coalition (10 Cooperative Commonwealth Federation, 1 Independent Anti-Coalition, 1 Labour Progressive). There were also 3 service members with no party affiliation. Six members (appointed for life) in the Senate and 17 members in the House of Commons represent Manitoba in the Dominion Parliament at Ottawa. Lieut. Gov., R. F. McWilliams (appointed Nov. 1, 1940; Premier, Douglas L. Campbell (appointed Nov. 13, 1948). See CANADA.

MARITIME COMMISSION, United States. The Merchant Marine Act of 1936 established the U.S. Maritime Commission as an independent Government agency, charged with providing for a Merchant Marine that should be sufficient in peacetime to carry a substantial portion of the nation's trade, and available in time of emergency to serve as an auxiliary to the armed forces. In carrying out this task, the Maritime Commission helps to equalize American with foreign shipping costs, by paying differential subsidies to ship-owners and builders, and provides ships by selling or chartering its own vessels and by encouraging the building of new vessels.

The high cost of operating American ships has in the past tended to drive them off the sea when shipping competition was keen. This has meant that in time of war there were not enough ships in operation to serve expanded needs for cargo and troop transport. Provision was therefore made in the Merchant Marine Act of 1936 for the Government to pay the difference between United States and foreign costs to American ships operating on foreign trade routes which are considered essential to our trade and security. Companies receiving these subsidies must agree to maintain adequate service and to keep their fleets in efficient condition by replacing obsolete ships with new, modern vessels. If a company earns over a 10 percent profit on its capital employed over a ten-year period, one-half of the excess must be returned to the Government, up to the full amount of the subsidies granted.

Operating subsidies, suspended during World War II, were resumed on Jan. 1, 1947. All operators receiving subsidies before the war have applied for resumption of subsidies, and applications have been filed for additional subsidized operations. Payments since the war will probably be higher than before due to increases in operating costs, such as seamen's wages, food, and fuel, to a greater extent than increases in similar foreign costs. Nevertheless, payments of subsidies for merchant shipping average only about 2 percent of all

Government subsidies, and the recent end of the first ten-year subsidy period for several operators has led to the recapture by the Government of all the subsidy paid to three companies and a substantial amount of that paid to four others.

During World War II nearly all available merchant vessels were taken over by the Government, which employed private companies as its agents to operate the ships. After the war most of the requisitioned ships still afloat were returned to their owners. This left about 4,000 war-built vessels in Government possession. Under the Merchant Ship Sales Act of 1946, the Commission was authorized to sell these vessels to private ship-owners. Up to Dec. 31, 1948, a total of 1,773 had been sold.

American ship-owners purchased 660 of the best types for their own use, while foreign operators bought 1,113 to replenish their war-depleted fleets. By Mar. 1, 1948, the fleets of the leading maritime nations were approaching their prewar levels through purchases and new construction. The United States Congress therefore ended the Commission's authority to sell its surplus vessels to foreign operators, but extended until Mar. 1, 1949, its power to sell vessels to American citizens.

Through these purchases the privately owned United States fleet in active operation has been returned to about its prewar level, numbering 1,008 vessels of 1,000 gross tons and over, on Sept. 30, 1948. This fleet has not been sufficient, however, to meet all the heavy postwar shipping demands, especially the requirements for bulk transport of coal and grain sent abroad for relief purposes. Consequently several hundred Government-owned ships were also kept sailing, a few operated by the Government through general agents to transport displaced persons, but most of them chartered by private companies from the Government. A provision in the Foreign Assistance Act that 50 percent of the cargoes purchased under the Act and sent abroad from the United States should be carried in United States ships whenever they were available at market rates gave employment to these vessels.

Government-owned vessels under charter have dropped in the past year, however, from a peak of 1,510 on June 30, 1947, to 362 on Dec. 31, 1948. United States ships, which carried 67 percent of United States export and import trade in the first six months of 1946, were carrying only about 57 percent in the first seven months of 1948. Foreign flagships increased their carriage of United States imports by 6 percent in the latter half of 1947 and have been taking over a constantly increasing share of the bulk cargo.

The domestic fleet, operating along and between United States coasts, and between the United States and its Territories and possessions, formerly constituted about 60 percent of the total United States merchant fleet and served as a defense reserve. During World War II most of these ships were taken for war service, and since the war they have been unable to regain their business, due to high operating costs and low rates of competing land carriers. The Commission has petitioned the Interstate Commerce Commission to investigate the rail-water rate structure, which is placing an undue burden on water carriers. It has also granted special low charter rates on its vessels to domestic operators, but the fleet has remained at less than half its prewar figure, totaling 205 dry cargo vessels of 1,000 gross tons and over, on June 30, 1948, against 428 on June 30, 1938. The coastwise and inter-coastal fleets alone are at one-third their prewar levels.

Government-owned vessels that are not sold or chartered are kept in reserve fleets at seven permanent, and two temporary sites, along the coasts. These fleets contained a total of 1,901 vessels on Nov. 1, 1948, of which 1,837 were built during World War II and 64 were built before the war. Old or badly damaged ships are being scrapped. All good vessels are treated to preserve them for any future emergency use. Over 500 have been selected by the armed services as part of the permanent National Defense Reserve Fleet.

Since the war the United States shipbuilding industry has been rapidly slipping from its unprecedented wartime peak to its prewar low. Employment on new ship construction has fallen far below the minimum considered essential to provide a nucleus for expansion in an emergency, and the repairs and reconversions of war-built vessels, which kept many yards busy after the war, are nearing completion. During the year ended June 30, 1948, the United States built only 33 vessels, while other countries built 368.

After the war the Maritime Commission suggested a building program of 144 vessels over the next 10 years and a 25-year replacement program. Early in 1948 a Committee of Cabinet members appointed by the President recommended a minimum of 50 passenger vessels and 170 tankers to be built in the next 3 years in order to bring the fleet up to defense requirements. In accordance with national policy, these vessels were to be built and operated by private ship-owners wherever possible, with the Government paying the difference between United States and foreign shipbuilding costs and the cost of national defense features, such as speed in excess of commercial requirements.

A survey of operators showed that there were good prospects for the building of about 18 new passenger-cargo vessels, 2 passenger-trailer vessels for coastwise operation, and 20 tankers. In August 1948 the Commission was able to place contracts for 5 passenger or combination passenger-cargo liners, which two operators had agreed to purchase. A construction subsidy of approximately 45 percent will be paid on these vessels.

Bids were also received for building a number of high-speed tankers, on which the Commission would pay for national defense features only, and for a trans-Atlantic express liner of 50,000 tons, on which a construction subsidy would be paid. Other orders are in prospect, including 2 prototype vessels which the Commission hopes to build as models for vessels suited to competitive peacetime trade but readily adaptable to war service. In addition, private companies have on order some 60 tankers, which will help to meet the continued high demand for oil transport. By Nov. 1, 1948, there were 79 merchant vessels of 1,000 gross tons or more, totaling 1,123,340 gross tons, on order in United States shipyards, and a start had been made on a new postwar building program.

—WILLIAM WARD SMITH

MARKLE FOUNDATION, The John and Mary. Since its inception in 1927, the Foundation has confined its major activities to support of research programs through grants to institutions. The shortage of medical research men and women in this country has, however, dictated a change of policy beginning in 1948. The Foundation proposes to supply \$5,000 a year for a limited number of men, each man to be assured a tenure of five years on the staff of a medical school. President, George Whitney; Executive Director, John M. Russell; Secretary, Doro-

thy Rowden. Offices: 14 Wall St., New York 5, N.Y.

MARTINIQUE. A West Indian overseas department of France. Area: 385 square miles. Population (1946 census): 261,595, mostly Negro and mulatto, with about 5,000 whites. Fort-de-France, the capital, had 66,006 inhabitants in 1946. Sugar (1946 export, 16,519 tons), cacao, bananas, pineapples, and rum are the main products. Trade (1946): imports 1,583,400,000 francs; exports 1,563,500,000 francs. Finance (1947 est.): revenue and expenditure balanced at 1,474,803,000 francs. The department is under a governor, aided by a privy council, and an elected general council. Martinique is represented in the French National Assembly, the Council of the Republic, and in the French Union.

MARYLAND. A south Atlantic State. Area: 12,327 sq. mi. Population: (July 1, 1948) 2,148,000, compared with (1940 census) 1,821,244. Chief cities: Annapolis (capital), 13,069 inhabitants in 1940; Baltimore, 859,100. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$100,382,000; total expenditure, \$101,043,000.

Legislation. A special session in May gave employees of the State of Maryland a cost-of-living raise in pay. An important amendment approved by the voters in November provides for annual sessions of the legislature. Even-year sessions will be restricted largely to consideration of the annual budget. Another amendment facilitates the procedure for territorial annexations to Baltimore City.

Elections. The 8 electoral votes which were Roosevelt's in 1944 went in 1948 to Dewey who won a small plurality over Truman. House seats remained as during the 80th Congress—4 Democratic and 2 Republican. There were no races for Senate or Statewide office.

Officers, 1948. Governor, William Preston Lane, Jr.; Lieut. Governor, None; Secretary of State, Bertram L. Boone, II; Attorney General, Hall Hammond; State Treasurer, Hooper S. Miles; State Comptroller, James J. Lacy; State Auditor, Daniel L. Clayland, III.

MASSACHUSETTS. A New England State. Area: 7,839 sq. mi. Population: (July 1, 1948) 4,718,000 compared with (1940 census) 4,316,721. Chief city: Boston (capital), 770,816 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$274,342,000; total expenditure, \$350,981,000.

Legislation. The General Court met in annual session on January 7 and adjourned on June 19 after record total appropriations, including deficiencies and supplements, of \$241.6 million. It made \$200 million in State credit and \$5 million in annual contributions available to localities for public housing for veterans. This program contemplates 20,000 new homes in less than two years, with rentals averaging \$45 per month. Also approved were a \$14.5 million bond issue for general construction and repairs and a \$2.5 million metropolitan district commission bond issue.

State employees received a \$150 cost-of-living bonus plus increases under a job reclassification program, while legislative salaries were raised to

\$2,750 a year. Other enactments legalized the sale of colored margarine; established a youth service board with jurisdiction over juvenile offenders; reapportioned legislative districts; reallocated \$14 million in income tax revenue to localities under a new education formula and provided new aid to municipalities for school construction; expanded workmen's compensation benefits to dependent widows and children; and relaxed certain aspects of women's and children's labor laws.

In the November election, the people approved measures to earmark motor vehicle and motor fuel tax revenues for highway purposes, and to restrict the Presidency to two terms.

Elections. Truman won the 16 electoral votes with a popular majority over Dewey, Wallace, and other candidates greater than that of Roosevelt in 1944. In the Senatorial race, Republican incumbent Leverett Saltonstall was reelected, and the Democrats won 6 seats in the House to 8 for the Republicans, a gain of one for the Democrats. In contests for State office, the Democrats made a clean sweep, electing Paul A. Dever governor over incumbent Robert F. Bradford; Charles Sullivan—Lieutenant Governor; Edward Cronin—Secretary of State; Francis Kelly—Attorney General; John Hurley—Treasurer; Thomas Buckley—Auditor.

Officers, 1948. Governor, Robert F. Bradford; Lieut. Governor, Arthur W. Coolidge; Secretary of State, Frederic W. Cook; Attorney General, Clarence A. Barnes; State Treasurer, Laurence Curtis; State Auditor, Thomas J. Buckley; State Comptroller, Fred A. Moncewicz.

MAURITIUS. A British island colony in the Indian Ocean, comprising the island of Mauritius, about 550 miles east of Madagascar, and a number of dependent islands. Area: 720 square miles, excluding the dependent islands totaling 87 square miles. Population of Mauritius (1946 est.): 428,273 with dependencies totaling 13,463 (in 1944). About 63 percent of the population are Indo-Mauritians. Capital: Port Louis (pop. 66,805). The state-aided Christian churches are predominantly Roman Catholic. Except for some 50,000 Moslems, the natives are mostly Hindus. Education (1946): 128 schools and 40,959 pupils.

Production and Trade. The island produces less than 10 percent of its food requirements. Agricultural crops are chiefly for export. Principal export crop is sugar, of which a total of 330,000 metric tons was produced in 1947. The 1948 crop is estimated at 360,000 to 370,000 metric tons. Rum is an important export. Copra and aloe fiber also are exported. Trade (1946): imports Rs66,700,209; exports Rs49,014,680.

Government. Budget estimates (1948-49): revenue Rs36,355,652; expenditure Rs41,320,891. Under the Constitution of Sept. 15, 1947, the colony with its dependencies is administered by a governor assisted by a legislative council of 34 members (3 ex-officio, 12 nominated, and 19 elected) and a reconstituted executive council. In the general election held Aug. 9-10, 1948, the unexpected results gave 11 seats to Indo-Mauritians, 7 seats to the colored section, and 1 seat to the white section of the population. Governor: Sir Henry C. Mackenzie-Kennedy.

MEDICINE AND SURGERY. Treatment of Coronary Thrombosis with Myocardial Infarction by means of Anticoagulants. In 1938 Solandt, Nassim, and Best suggested as the result of experimental studies in animals that the extension of coronary thrombosis, and the development of mural thrombi might be

prevented by the administration of anticoagulants.

The results of preliminary trials of anticoagulant therapy in clinical cases of coronary thrombosis by Wright and others in 1945 and 1946 were so encouraging that the board of directors of the American Heart Association authorized the formation of a Committee For The Evaluation Of Anticoagulants In The Treatment Of Coronary Thrombosis And Myocardial Infarction. This committee made up of cardiologists from 16 hospitals in the United States has recently reported an analysis of the first 800 cases studied in a series which will ultimately comprise 1,000 cases.

The general plan of the study was as follows: 368 patients admitted to the participating services on even days received conventional treatment and make up the control group. The 432 patients admitted on odd days received anticoagulants in addition to conventional therapy and constitute the treated group. The treated group were given either dicumarol alone or heparin combined with dicumarol in sufficient amounts to significantly interfere with the normal clotting mechanism. When heparin was used the aim was to prolong the clotting time of whole blood to approximately three times the normal value by the Lee-White technic. With dicumarol the minimum prolongation of the prothrombin time necessary to obtain a therapeutic effect was considered to be in a range of from 30 to 50 seconds as measured by the Link-Shapiro modification of the Quick one-stage technic.

It was, of course, considered essential that laboratory facilities adequate for the performance of accurate prothrombin time determination be available; and, as a matter of fact, daily determinations of the prothrombin time were considered absolutely essential before the administration of dicumarol, since it is only by such a careful control of the clotting mechanism that dangerous bleeding tendencies may be avoided.

A study of the patients in the two series showed a striking similarity in regard to age, history of previous infarction, and estimated severity of the present attack so that differences observed with the two plans of treatment seemed to be of significance.

The death rate in the treated group was found to be significantly less than in the control group (15 percent as against 24 percent). Of greater importance was the reduction in the number of deaths which followed one or more thromboembolic complications. Such deaths occurred in roughly 10 percent of the control group but in only 3 percent of the treated group. When the mortality rate was analyzed as it related to weeks of illness, it was found that in each period the death rate for the control patients was significantly greater than that for the treated group.

These figures were considered to indicate that anticoagulant therapy, if not used before, should be begun even as late as the second or third week after a myocardial infarction has occurred or even later if complications have developed. And secondly, that to give maximal protection anticoagulant treatment should be continued for at least four weeks after the last thromboembolic episode. When analyzed by age the greatest benefit in the reduction of the mortality rate was in the group of patients 60 years of age or older. An analysis of the incidence of thromboembolic complications shows that these occurred in 25 percent of the control patients and in 11 percent of the treated patients.

An analysis of the types and locations of thromboembolic complications in the two groups is of interest. Secondary myocardial infarction occurred in 9 percent of the controls and in 2 percent of the

treated patients. Infarction of new areas in the myocardium occurred in 6½ percent of the controls against 2½ percent of the treated patients and pulmonary embolism in 9.4 percent of the controls as against 5.2 percent of the treated subjects. Cerebral emboli occurred in 3.4 percent of the controls and in 1.4 percent of the treated patients. Peripheral emboli developed in 3 percent of the controls and in 1 percent of the treated group. Finally venous thrombosis occurred in 5 percent of the controls and in less than 2 percent of the treated.

"Hence it will be seen that at every site and with every type of complication, those receiving anticoagulant treatment in addition to conventional treatment had a distinctly better chance of escaping thromboembolic complications than those who received the conventional forms of treatment only."

This study seemed to indicate that the hazards of hemorrhage with anticoagulant therapy are not great. Of 30 hemorrhages clinically observed, 15 were mild, 14 were moderately severe, and only one was severe. The authors state "The postmortem observations on hemorrhagic phenomena are not yet ready for presentation, but those examined to the date of reporting presented no alarming picture of the hemorrhagic risks in anticoagulant therapy under proper controls."

Finally it was thought that a considerable proportion of the failures occurring with anticoagulant treatment were due to the fact that the prothrombin time was not adequately prolonged. A review of the cases in which thromboembolic complications occurred during the administration of dicumarol revealed that of the 38 complications only four occurred in patients whose prothrombin time was known to have been maintained at 30 seconds or more for at least three days before the complications appeared. The authors conclude:

"1. On the basis of data compiled from 800 cases of coronary occlusion with myocardial infarction, it is concluded that patients treated with anticoagulants in addition to the conventional forms of treatment present a death rate and incidence of thromboembolic complications during the first six-week period following an attack significantly lower than those experienced by patients treated solely by conventional methods.

"2. Anticoagulant therapy should be used in all cases of coronary thrombosis with myocardial infarction unless a definite contraindication exists.

"3. In the absence of hemorrhagic conditions, the hazards from hemorrhage are not sufficient to contraindicate the use of anticoagulants in coronary occlusion, provided that there are facilities for adequate laboratory and clinical control." (Wright, Marple, and Beck JAMA 138:1074, 1948.)

Antibiotics. Clinical experience during the past year has demonstrated that three new antibiotics are of considerable therapeutic value. These are bacitracin, aureomycin, and chloromycetin. Furthermore, a new compound of streptomycin has increased the range of utility of this drug. These developments will be considered separately.

Bacitracin. In 1945 Johnson, Anker, and Meleney isolated from a mixture of organisms found in the debrided tissues removed from a compound fracture an antibiotic produced by the Tracey strain of *Bacillus subtilis*. This substance was found to be of high antibacterial activity and to have a low toxicity. It was designated as bacitracin. Although the chemical constitution of the material has not yet been determined, crude bacitracin has been sufficiently purified and standardized to permit its clinical use. The potency of bacitracin is assayed by determining the amount that will inhibit growth

in a standardized culture of hemolytic streptococcus. Bacitracin appears to contain a mixture of amino acids with a molecular weight of less than 4,000. Bacitracin is now clinically available for local use.

In 1947 Meleney and his co-workers reported on the local use of bacitracin in various types of surgical infections. They found that it yielded favorable results comparable to penicillin and that, furthermore, in many cases in which penicillin had failed bacitracin was effective. A favorable response was elicited in 88 of 100 unselected cases (JAMA 133:675, 1947).

The drug has a wide antibacterial spectrum, and has been found to be effective against most strains of hemolytic streptococci, nonhemolytic streptococci, coagulase-positive staphylococci, pneumococci, gonococci, anaerobic cocci in general, the gas gangrene group, the bacillus of tetanus, the diphtheria bacillus and diphtheroids, the spirochetes of syphilis and also mouth spirochetes, the actinomycetoid group of organisms, and the protozoan parasite, *Endamoeba histolytica*. Bacitracin has little or no action against the Gram negative non-spore forming bacilli.

While in general the range of antibiotic activity of bacitracin is similar to that of penicillin, it appears to have these advantages over penicillin. First, it is not inhibited by organisms which produce penicillinase and is, therefore, more likely to be effective in infections due to bacterial mixtures. Second, it is more slowly eliminated from the body than is penicillin and, therefore, can be given at longer intervals. Third, its effectiveness against bacteria is in direct proportion to its concentration. It appears so far that bacitracin has less tendency to produce allergic or hypersensitive reactions than has penicillin. Although certain strains of bacteria may gradually build up a resistance to bacitracin, this is usually of a low order and is not either as common or as great as the resistance which may occur with penicillin.

The chief disadvantage of bacitracin as compared with penicillin is that up to the present time it has not been obtained in a pure crystalline form. The still relatively crude product now available may in certain cases produce damage to the kidneys when the drug is injected systemically in man. As compared to streptomycin, bacitracin has a wider range of antibacterial activity and there is less likelihood of the development of resistance to it during the course of treatment. However, it is not effective against the Gram negative aerobic non-spore forming bacilli against which streptomycin is ordinarily effective.

Bacitracin is absorbed from the gastro-intestinal tract poorly, and for that reason effective concentrations of the drug are built up in the bowel. It appears that bacitracin given by mouth may be effective against susceptible intestinal organisms, especially *Clostridium welchii* and intestinal streptococci. Early clinical trials suggest that the drug may be of value in minimizing the activity of the intestinal flora before surgical operations on the bowel if it is combined with orally administered streptomycin. Furthermore, in a few cases it has been found to be effective in chronic ulcerative colitis and in regional ileitis. It also has been given in both the active and chronic stages of anebic dysentery.

Because of the occasional nephrotoxic action of systemically administered bacitracin, at the present time the routine use of the drug is recommended only where it may be applied locally.

Recently a group of workers from five hospitals

in the United States have reported on the result of the systemic administration of bacitracin (Meleney, et al., *Annals of Surgery* 128:714, 1948). This preliminary study dealt with 105 cases of surgical infections treated with systemically administered bacitracin in New York, Cincinnati, New Orleans, San Antonio, and Philadelphia. These represented a wide diversity of conditions but for the most part consisted of cases which had failed to respond to the sulfonamides and to the other antibiotics.

There was an over-all favorable response in about 70 percent of the cases treated, and in about 20 percent the results were considered dramatic. The most dramatic results were in three cases of extensive progressive bacterial synergistic gangrene, all of which responded in 72 hours. Excellent results were also obtained in human bite infections and in cases of meningitis. The highest percentage of favorable results, 88 percent, was obtained in cases of cellulitis. Results were unfavorable in cases of thrombophlebitis and brain abscess.

In the group responding most favorably to bacitracin the causative organisms were for the most part in the staphylococcal and streptococcal groups. In the 30 percent of cases in which the results were questionable or frankly nil, it was considered that the organisms were for the most part resistant to bacitracin.

In this study evidence of mild renal damage (transient albuminuria) was observed in most of the patients. With some of the later preparations of bacitracin in which the drug was produced commercially on a larger scale by the "deep tank method" the evidences of nephrotoxicity were greater. It is suggested that if the drug be used systemically in its present crude form, close watch be kept for any evidence of renal damage, and should any sign pointing to such damage occur, treatment with bacitracin should be discontinued. It is hoped that further purification of bacitracin will eliminate the nephrotoxic principle without lessening its antibacterial action.

Aureomycin. A new antibiotic, aureomycin hydrochloride, a crystalline material obtained from the mold *Streptomyces aureofaciens*, has been studied extensively during the past year and promises to be of great value. Aureomycin was first described by Dr. B. M. Duggar, Lederle Laboratories Division, American Cyanamid Company. At the present time its chief value seems to be that it is effective against rickettsial disease, in contrast to penicillin and streptomycin. Besides this, aureomycin has two other great advantages: it is effective when administered orally, and the development of resistance to the antibiotic by bacteria during the course of treatment is low or absent.

The rickettsial diseases in which aureomycin has been used effectively include, Rocky Mountain spotted fever, Q-Fever, typhus, Rickettsialpox, lymphogranuloma venereum, and psittacosis (unpublished data by S. C. Wong and H. R. Cox). Studies of aureomycin therapy of Rocky Mountain spotted fever by Ross, et al., from the Research Foundation of Children's Hospital, Washington, D.C., and the Department of Preventive Medicine, the Johns Hopkins University School of Medicine indicate that aureomycin is the most effective agent in the treatment of this disease.

Its efficacy was found to be superior to that of paraaminobenzoic acid which had been the drug of choice. Thirteen patients were studied during the summer of 1948. The temperatures subsided rapidly under aureomycin therapy within an average period of 2½ days, and striking clinical improvement was observed in all the patients. No

toxic effects from the drug were noted. (*JAMA* 138:1213, 1948.)

Equally good results have been obtained in a few cases of Q-Fever, typhus, and Rickettsialpox which have been treated with aureomycin. Wright and his co-workers made an intensive study of the use of aureomycin in lymphogranuloma venereum, and concluded that this antibiotic is a specific form of therapy for the "virus" as well as being highly effective against the secondary bacterial invaders. Aureomycin was stated to be the treatment of choice in all cases of lymphogranuloma venereum infection with surgery, wherever mechanical conditions demand it.

Aureomycin has also been found to be effective in certain instances of the clinical syndrome of undetermined etiology designated as primary atypical pneumonia. While its unique ability to control rickettsial diseases appears to be the chief value of the drug at the present time, aureomycin has also been found to be effective against many coccic and bacillary forms. Finland and his co-workers at the Boston City Hospital have recently reported the use of this antibiotic in 100 cases of a variety of bacterial infections.

Studies of the sensitivity of bacteria to aureomycin show that strains of hemolytic streptococci, pneumococci, gonococci, and meningococci were almost completely inhibited by aureomycin in very small concentrations (1 microgram per cubic centimeter or less). Staphylococci and most strains of gram-negative bacilli, including typhoid and other *Salmonella*, were inhibited by 25 micrograms per cubic centimeter or less. The only really resistant strains observed were those of *Proteus vulgaris* and *P. pyocyaneus*. On a weight basis aureomycin was less effective than penicillin against most of the coccic organisms, but was about as effective as streptomycin against most of the gram-negative bacilli.

Clinical infections studied included gonococccic urethritis, pneumococccic pneumonia, meningococccemia, typhoid fever, *Salmonella* infections, and urinary tract infections. In the cases studied a good result was obtained in 64, a doubtful result in 28, and in 15 cases the drug was considered to have failed. At the present time the indications for aureomycin therapy in other than rickettsial diseases would seem to be in infections caused by penicillin resistant gram-positive cocci and in infections caused by the coli-aerogenes group of bacteria, including those of the urinary tract and peritonitis with or without bacteremia. Aureomycin also appears to be the antibiotic of choice in the treatment of acute brucellosis.

At the present time the value of aureomycin therapy has not been clearly defined in *Salmonella* infections, including typhoid fever, and it appears that penicillin is still the treatment of choice in infections caused by gram-positive cocci which are not penicillin resistant.

Aureomycin also appears to be effective in certain bacterial and viral-like infections of the eye. All the laboratory and clinical studies suggest that the toxicity of aureomycin is minimal. For all practical purposes it may be stated that aureomycin is not toxic in therapeutic dosage except for producing occasional nausea and diarrhea. It is not as yet known whether or not there is any allergy to the antibiotic.

Treatment of Acute Leukemia in Children with Aminopterin. The acute leukemias of childhood are diseases of unknown origin involving primarily the blood-forming organs and the blood. They are characterized clinically by enlargement of the

lymph nodes and of the spleen, usually by a great increase in the number of white blood cells in the circulating blood and by infiltration of various viscera with abnormal cells of leukemic origin. The disease usually progresses rapidly and terminates fatally in a comparatively short period of time. None of the methods of treatment employed up to this time have been of any significant value.

In June Farber and his associates at the Children's Medical Center in Boston reported their interesting experiences with the treatment of a group of children with this disease with a folic acid antagonist, aminopterin. Farber, having previously observed that the injection of folic acid conjugates seemed to accelerate the leukemic process, decided that the trial of chemicals which were antagonistic to folic acid might be justified in this disease. The most powerful antagonist to folic acid yet discovered is aminopterin (4-aminopteroyl-glutamic acid).

Of 16 infants and children with acute leukemia treated by Farber and his associates with aminopterin, 10 showed clinical, hematologic, and pathological evidence of improvement of important nature of as long as three months duration at the time of their report. Six patients did not respond well, and of these four were dead at the time of the report. Observations in the group who responded showed that aminopterin had a marked effect upon the leukemic bone marrow and upon the immature cells in the peripheral blood and very probably upon leukemic deposits in the viscera as well.

Under treatment with aminopterin there was a tendency in this group of patients for the abnormal changes in the peripheral blood and in the bone marrow to revert to a state much more nearly normal. This improvement in the hematologic aspect of the disease was associated with a corresponding improvement in the clinical condition of the patients. Some children who were practically moribund at the beginning of treatment were brought back to what seemed to be a clinically normal state with the aminopterin injections.

While these results are striking, the authors emphasize very strongly that the remissions so far obtained have been only temporary; and that it is impossible to state whether or not the substance will be of value for a longer period than that covered by their studies. They also emphasize the fact that the toxic effects of aminopterin, which may include severe stomatitis, may make continued use of the drug impossible. It should also be stated that spontaneous remissions of short duration are occasionally observed in the course of untreated acute leukemia. At any rate the findings of Farber and his co-workers is of great interest.

As they state "no evidence has been mentioned in this report that would justify the suggestion of the term 'cure' of acute leukemia in children. A promising direction for further research concerning the nature and treatment of acute leukemia in children appears to have been established by the observations reported" (*New England Journal of Medicine* 238:787, 1948).

Use of Human Arterial Grafts in the Treatment of Certain Cardiovascular Defects. One of the most interesting and important surgical reports of the past year was that of Gross and his associates, of the Harvard Medical School and the Children's Hospital in Boston, on the use of human arterial grafts in the treatment of cardiovascular defects. In an attempt to devise a technical procedure which would help in bridging gaps in the arterial system resulting from injury or disease, Gross and his as-

sociates studied in dogs the possibility of transferring a segment of a large artery from one animal to another. Studies of three types were made.

In the first a segment of the aorta was removed from a donor animal and implanted within a few hours into a recipient dog. It was found that when the aortic segments were kept moist and in a common domestic refrigerator for only a few hours there was a very high probability of the survival of the graft in the recipient animal. After a period of 6 hours only about two-thirds of the grafts survived. After 18 hours the vast majority of the dogs died from thrombosis in the graft or from rupture at the suture line. In the second group the excised vessels were rapidly frozen to $-72^{\circ}\text{C}.$, and were stored at this temperature for periods varying from 2 to 35 days before being implanted into recipient dogs. Of 12 grafts of this type only one was at all successful, and Gross was led to believe that freezing would not be a satisfactory method for preserving arterial grafts.

In the third study the excised aorta segments were stored in flasks containing an electrolyte solution to which had been added glucose, dog serum, a buffer, penicillin, streptomycin, and a phenol-red indicator. Each flask was stored in an icebox, the temperature of which did not range beyond 1° – $4^{\circ}\text{C}.$ The tissue-culture studies on such vessels showed them to be viable for as long as 35 to 40 days in most cases. Transfer of the graft was carried out in 24 animals with successful results. In the oldest experiments the grafts were known to be carrying blood for periods of as long as 10 months.

With this careful experimental study as a background, Gross secured segments of arteries obtained within a few hours from human beings who had died in automobile accidents and stored them for use whenever the need might arise in a human patient. At the time of his report 9 such grafts had been used to bridge gaps between the aorta and the pulmonary artery in cases of cyanotic heart disease, which did not seem suitable for a treatment by the more commonly employed technics of Blalock or Potts.

Two patients in this group died from causes not attributable to any defect in the graft, and in the 7 survivors the grafts were apparently functioning normally and carrying blood for a period of as long as 5 months. Gross also successfully used human aortic transplants in the treatment of 3 patients with coarctation of the aorta in whom the defect produced by the excision of the stenotic segment was too great to be bridged by an end-to-end suture.

Although none of Gross' patients have been followed for any considerable period of time, the early results certainly suggest that this method of transplantation of arteries in man represents another fundamental advance in the field of cardiovascular surgery. (*New England Journal of Medicine* 239:578, 1948.)

Technical Advances in Surgery. During the past year several important technical suggestions have been made, especially by a group of younger American surgeons. Several of these were reported at the annual meeting of the Society of University Surgeons and deserve brief description.

Ravitch of Johns Hopkins reported that he had employed successfully in man the ingenious technic which he had previously worked out in animals by means of which after excision of the entire colon, the terminal ileum could be brought through the preserved anal sphincters and anastomosed to the perianal skin.

This technic, which permits ablation of the colon and yet at the same time allows the preservation of sphincteric function, seems to represent a great advance in the treatment of patients who demand colectomy for non-malignant disease. It obviates the necessity of a bowel opening on the abdominal wall, with all the difficulties which such an opening involves. These difficulties are especially great when the ileum drains on the skin of the abdominal wall. Ravitch has performed 5 such procedures for chronic ulcerative colitis and one for familial polypoid adenomatosis of the colon. There have been no deaths, and he states that the results thus far have been encouraging. (*Surgery* 24:170, 1948.)

Swenson and Bill of the Children's Hospital in Boston described a method of resection of the rectum and rectosigmoid with preservation of the anal sphincters. They believe this technic will be useful particularly in Hirschsprung's disease. It is their opinion that the great dilatation of the colon observed in this condition is due to spasm of a segment of the rectum or rectosigmoid which produces a functional obstruction and not, as had formerly been thought, to any intrinsic disease of the musculature or innervation of the distended segment of the gut. Their operation has been applied successfully in three children. (*Surgery* 24:212, 1948.)

Longmire and Sanford of Johns Hopkins described an exceedingly ingenious procedure for the relief of obstruction of the common bile duct in cases in which extensive stricture or scar, advanced neo-plastic disease, or congenital atresia made direct anastomosis of the duct to the intestine impossible. The operation described by Longmire and Sanford consists essentially of excision of the left lobe of the liver, identification of the large intrahepatic duct which normally carries bile from this lobe, and anastomosis of this isolated duct to a loop of the small bowel.

They reported that they had employed this procedure successfully in one case of recurrent obstruction of the common bile duct due to acquired stricture. Also the procedure had been attempted in 3 cases of congenital biliary atresia in which previous exploration had shown complete absence of the extrahepatic biliary system. Unfortunately in these cases the atretic process seemed to be generalized since they were not able to find a duct large enough for an anastomosis even after resection of the left lobe of the liver. (*Surgery* 24:264, 1948.)

Gross described a two-stage procedure for the treatment of large omphaloceles. These are anomalies of development in which there is failure of closure of the abdominal wall in the region of the umbilicus. Through a large defect at the umbilicus there protrudes a thin walled hernial sac which contains varying amounts of the abdominal viscera. In the past small omphaloceles have been repaired successfully but larger ones containing the liver together with other viscera have not been repaired successfully because the undeveloped abdomen of the infant has not been large enough to contain the viscera which lies in the sac. In the infants in whom operation has not been possible death has usually occurred within a few days due to necrosis of the amniotic sac and the development of peritonitis.

The novelty of Gross' contribution lies in the fact that he makes no attempt to replace the viscera in the abdomen but merely covers the sac, by suturing over it the skin which has been widely undermined, in order to obtain sufficient laxity to permit suture without tension. Interestingly enough in-

fants so treated do not develop peritonitis or intestinal obstruction and although their appearance is grotesque because of the huge umbilical protrusion, they get along quite well. Gross found that in 6 months or so there was sufficient growth and development of the abdominal cavity to permit replacement of the viscera without difficulty and repair of the abdominal wall. Three cases in which this technic had been employed successfully were reported. (*Surgery* 24:277, 1948.)

—H. WALTON COCHRAN

MELLON INSTITUTE. The aim of Mellon Institute is the creation of new knowledge by scientific investigation for the benefit of mankind, in accordance with the institution's definite fellowship system. According to this procedure the researches are restricted to major problems of the pure and applied sciences and particularly chemistry—problems that require protracted periods of time for solution by specialists. The Institute was founded by Andrew W. Mellon and Richard B. Mellon in 1913 and is located at 4400 Fifth Ave., Pittsburgh 13, Pennsylvania. It is a non-profit institution. Director, Edward R. Weidlein; Assistant Directors, E. Ward Tillotson, William A. Hamor, George D. Beal, Harry S. Coleman, L. H. Cretcher, G. H. Young.

The industrial research of the Institute is organized on a contract basis, the problem being set by a person, firm, or association interested in its solution, the scientific worker being found and engaged by the Institute, and an industrial fellowship being assigned for a period of at least a year. Each holder of an industrial fellowship is given broad facilities for accomplishing the research entrusted to him and all results belong exclusively to the donor of the fellowship. Only one investigation is conducted on a specific subject at any one time and hence there is no duplication of the research activities of the fellowships in operation. At present there are 75 of these industrial fellowships, which employ 490 scientists and engineers. The projects range from ferrous metallurgy and refractories to novel pharmaceuticals or medicinal agents, synthetic rubber, new plastics and textiles, and improvements in foods and other essential commodities. All the work during wartime related to urgent military problems. The Institute's department of research in pure chemistry is concentrating on the synthesis of new chemotherapeutic agents. There is also a strong department of research in chemical physics.

MENNONITES. A religious group founded in Switzerland in 1525 in protest against ecclesiastical rule and rigid liturgy. In the United States the Mennonites began arriving in 1683 and settled in Germantown, Pa., ultimately dividing into 16 bodies.

Mennonite Church. This is the largest group of Mennonites in the U.S., having a total membership of 54,729. The 420 churches are served by 1,050 ordained men. A total of 1,880 students is enrolled in 3 church colleges, and 71,650 persons are enrolled in Sunday or Bible schools. The church maintains 16 institutions for care of the aged, orphans, and the sick.

MERCURY. Domestic production of mercury continued on a decline that began in the latter part of the war. Production in the first nine months of 1948 was only 12,050 flasks (76 lb. each), about half 1947 production, 23,244 flasks. At year end, three mines, two in California and one in Oregon, accounted for 96 percent of production. Increasing consumption, 35,100 flasks in the nine month period, compared with 35,581 flasks in 1947, was

served by a higher volume of imports. These increased to 32,596 flasks in nine months, compared with 10,228 flasks in 1947.

Domestic mines have been gradually forced out of production by the low price set by Mercurio-Europeo, the Spanish-Italian cartel, which established a price of \$56 a flask, Mediterranean ports. U.S. duty is \$19 for the metal plus 25 cents for the flask. Ocean freight and insurance cost about \$3. In December, 1948, the cartel raised its price \$14 a flask, bringing the New York price to a range of \$90 to \$92.

—JOHN ANTHONY

METEOROLOGY. *January–April.* The first four months of 1948 were characterized by periods of above normal temperature punctuated by several severe cold waves. Generally, warm weather prevailed throughout the country in the first half of January. This was brought to an end east of the Rockies by outbreaks of cold polar air on the 15th–16th and again on the 18th, which brought below-freezing temperatures to all southern areas except extreme southern Texas and Florida. The lowest temperatures of the winter were recorded in the Lake region, and snow, measuring a foot in depth in portions of Mississippi and Tennessee, covered much of the South. Severe cold continued in sections east of the Rockies through the remainder of January and the first half of February.

However, warm weather continued in the Mountain and Pacific States until the closing week of January, resulting in the warmest January of record in many portions of that area. During the last week of January and the first half of February low temperatures prevailed in the Far West as well as in the eastern portions of the country. Vegetable and citrus crops in southern Arizona and California were damaged by frosts. On the 12th of February sub-zero temperatures were recorded in every western State. Generally mild weather occurred in the latter half of February. The early days of March brought two rapidly moving cold air masses which spread over practically the entire country.

New low temperature records were set in the Middle West, Arizona, and New Mexico. Freezing temperatures were recorded in Brownsville, Tex., and snow fell in the Rio Grande Valley. A sharp rise in temperature followed this cold wave east of the Rockies. The remainder of the month was marked by changeable conditions although temperatures generally averaged above normal. The month of April was notable for above average temperatures which prevailed over the entire country with the exception of the Northwest, New England, and the Middle Atlantic States. However, during the first week damaging frosts occurred in the Middle West and southern Mountain States, and freezing temperatures were recorded along the Atlantic Coast as far south as Virginia.

Precipitation in January was above normal in Florida and along the Gulf and Atlantic Coasts, and near normal to deficient in all other areas. Drought conditions and high temperatures in Nevada, southern California, and western Arizona resulted in a much below normal mountain snow-pack. Heavy snows fell in the Ohio Valley and in New England. In February precipitation, much of which occurred as snow, was above normal over a considerable area of the country except for the Atlantic Coastal States.

March was characterized by light, though widespread, rainfall over most sections except the Southeast and central Gulf States where large excesses were accumulated. In April the heaviest precipitation occurred east of the Mississippi River, while

dry, windy weather caused dust storms in the Southwest and in the Great Plains. General above normal precipitation in California much improved the outlook for the water supply.

Flooding was reported on several streams in the Ohio Valley in January. A number of damaging floods occurred in March causing over a million dollars' worth of damage in southern Michigan and driving hundreds of families from their homes in the vicinity of Wilkes Barre, Pa. The Ohio River and many of its tributaries overflowed during April, and there was also some flooding in Mississippi and northern Florida. The rapid melting of a heavy snow cover caused the Red River in the North to reach the highest stage reported in many years.

There were a number of severe storms in the early months of 1948. The first to strike in January caused much damage from severe icing and high winds in the Middle West; brought traffic-halting snow to portions of Missouri, Iowa and Wisconsin; gave heavy rains over the Ohio Valley; and resulted in thunderstorms and tornadoes in several mid-western and southern States. Total losses from this storm were tremendous; damage resulting from high winds and icing in Illinois alone was believed to approach \$3,000,000.

Severe winter weather east of the Rockies during the latter part of the month, attended by blizzards, heavy snows, and low temperatures, caused much human suffering, including a large number of injuries and several deaths. Monetary losses were very high, approaching \$20 million in the State of Arkansas as a result of freezing and thawing damage to roads, and ice damage to forests and utilities. In February glaze and ice storms were numerous but caused only minor damage. An unusually heavy snowstorm occurred in Oregon on the 5th and 6th when a total of 16 inches of snow fell in 20 hours at The Dalles.

March was notable for a number of destructive tornadoes. On the 19th a storm which moved from the central Great Plains to the Lake region was marked by no fewer than a score of tornadoes; the most severe occurred at Bunker Hill, Ill., and vicinity, killing 24 persons, injuring 295, and causing about \$3 million damage. High winds with gusts up to 100 m.p.h. caused an estimated \$4 million damages in Indiana, many millions in Ohio, and about \$750,000 in New York. Total tornado and wind damage resulting from this storm probably exceeded \$10 million. On the 20th a tornado struck at Will Rogers and Tinker Air Fields near Oklahoma City, Okla., causing over \$10 million damage, and in less than a week a second tornado struck Tinker Field resulting in damages exceeding \$6 million.

Another storm accompanied by tornadoes, hail, sleet, freezing rain, and heavy snows occurred in the North Central States on the 26th and 27th. As a result, total March storm damage was unusually high, \$30 to \$40 million, with tornado damage alone exceeding \$28 million. The most destructive storms in April occurred in California and Arkansas. In a portion of the San Joaquin Valley wind, dust, and rain caused \$8 million in damage to crops and \$2 million to property. A hailstorm, with some hailstones of $3\frac{1}{2}$ inches in diameter reported, caused more than a million dollars' worth of damage in Union, Ouachita, Calhoun, and Bradley counties in Arkansas.

May-August. Temperature fluctuations during the second period of the year were rather marked. The weather in May was cool and damp in the Pacific and Mountain States and in the Northeast. The

abundant moisture was favorable for agriculture in the Pacific States but delayed planting in New England, and was detrimental to crops and livestock in Idaho and western Montana. Although temperatures averaged below normal in the central regions of the country, the latter half of the month was warm and sunny. Some record maximum temperatures were recorded in North Dakota and Wyoming and along the middle Atlantic Coast.

The mild weather continued into the first half of June except in New England where temperatures were below normal. During the latter half below normal temperatures prevailed over the country except for the Pacific Coast, the South, and Southeast. Some frost damage was reported from north-central Wisconsin on the 15th, and a minimum of 32° F. was recorded at Phillipsburg, Pa., on the 17th. July's temperatures were very close to normal over most areas of the country with the exception of the Northwest where snow and frost occurred at high elevations in Utah and southeastern Idaho on the 27th and 29th, and the second lowest July temperature of record for Montana was reported at West Yellowstone on the 18th.

In August temperatures continued below normal in the Pacific States, but the most outstanding feature of the month's weather was the heat wave which spread over the Lake region and the Northeast during the last decade of the month. Maximum temperature records were established for August at New York, N.Y. with 103° F.; Buffalo, N.Y. with 99° F.; and Nantucket, Mass. with 95° F. A maximum temperature of 107° F. at Mather, Wis., equaled the State record.

Precipitation was heavy in many sections of the country in May, and unusually heavy in Washington, Oklahoma, Maryland, and Delaware. This was rated the wettest May of record in Washington and Delaware, and the second wettest in Maryland. Most precipitation which occurred in June was of the thunderstorm type with much local variation. Exceedingly heavy rains fell in Nebraska, Kansas, and Oklahoma, but below normal amounts were recorded in the South, New England, through the lower Ohio Valley and much of the Lake region, in northern North Dakota, and along the coast of Washington and central California. Heavy rains partially relieved an acute drought in southeastern Louisiana, and lesser droughts in Minnesota and Illinois.

Again in July unusually heavy rain occurred in Kansas, and above normal totals were accumulated in the Northwest, the Ohio Valley, the Appalachians, and the extreme Southeast. Light to extremely light precipitation was reported from the other sections of the country. August again bestowed extremely heavy rainfall on Kansas, and above normal falls were reported from the Great Plains, the northern Rocky Mountain States, and the Pacific States. East of the Mississippi and in most areas of the Southwest the monthly totals were below average.

Serious floods made spectacular news all during this period. In May a devastating flood resulting from heavy rains and melting snows on the upper reaches of the Columbia River and its tributaries, and along most major streams in northern Idaho and western Montana, took an undetermined number of lives. Thousands of homes and thousands of acres of crops were destroyed and tremendous damage done to other property. Preliminary estimates show \$3 million in damages in western Montana, over \$7 million in northern Idaho, and approximately \$21.5 million near Portland, Ore. In June,

Nebraska reported more than \$4 million loss in flood damage. Torrential rains occurring during the period 20-24 of June resulted in destructive floods in various parts of Oklahoma. Several lives were lost, and estimated damages exceeded \$4 million.

The Columbia River remained at high stages during the first part of June taking additional lives and causing property damage of many millions of dollars. Estimates of total property damage from this flood place the losses at more than \$100 million. Several hundred thousand dollars additional damage was suffered in northern Idaho and western Montana. As a result of the unusually heavy rains in Kansas in July most of the rivers in the State overflowed, some reaching record-breaking stages. Losses of more than \$13 million were suffered, more than half to growing crops. More than 10 inches of rain fell in 3 hours over a considerable area along the Hocking River in Ohio on the 22nd; resulting flood loss was estimated at about \$2 million. Again in August floods which caused nearly a million dollars' worth of damage occurred in southern and western Kansas. Northern Arizona experienced flash floods which caused some damage.

Several storms which occurred during May left total losses of at least \$15 million; tornado damage alone amounted to \$5.5 million. June was notable for an unusual number of destructive storms, but relatively few lives were lost. On the 10th a rain and hailstorm in Douglas County, Wash., caused \$2 million damage. Some \$4.5 million worth of damage was done by hail and wind in Cheyenne County, Kans., on the 13th, and on the 15th wind, hail, and lightning in three Kansas counties caused an additional \$2,175,000 damage. Total storm losses in Nebraska for the month of June exceeded \$7.5 million, and for the country as a whole tornado damage alone amounted to over \$3.5 million. Storm losses during July were lower than usual, for July storms, though numerous, were rarely severe. Hail caused a million dollars in damages in Colorado on the 15th, and losses of \$250,000 were sustained at Nashville from thunderstorms on the 22nd, and in Iowa from a tornado on the 29th. Damage from hail was very high in August. Montana suffered an estimated \$7.5 million in damages from several hailstorms, and in portions of northern Illinois on the 17th a number of hailstorms occurred, each causing damage of a million dollars or more.

September-December. In the last third of the year temperatures showed a wide variability. September's average temperatures were generally above normal especially in the North Central region where, during the second and third weeks, departures averaged as high as 15° F. above normal. Unusually cold weather occurred in the Middle Atlantic and New England States in the first week of September and again in the third week. From the 15th to the 17th, killing frosts occurred in the St. Lawrence River Valley and Adirondack region of New York and at higher elevations in New England. Generally warm weather prevailed west of the Rockies during most of the month, but in the last week an influx of cool Pacific air brought temperature averages to below normal and killing frosts occurred on the 24-25th at higher elevations in the Rocky Mountain region. Frosts also occurred in the northeast.

This period of cool weather carried over into the first two weeks of October. Killing frosts were general in most northern regions during the second week, and also caused some damage to vegetation in portions of Arizona and New Mexico. From the

16th to the 19th freezing temperatures in middle portions of the country reached as far south as northern Louisiana and Mississippi, resulting in one of the earliest killing frosts on record in those States.

In November temperatures in the eastern parts of the country and extreme north central areas were considerably above normal, with departures in the Lake region and northeastern States averaging about 8° F. above normal. Snow began to accumulate in the Rockies, and in the Far West cold Polar air masses accompanied by snow and wind brought subzero temperatures to northern and central portions of the region, and occasionally frost and freezing to vegetable and citrus areas of the extreme south. Near the end of the month frost occurred in the Rio Grande Valley in Texas as far south as Brownsville, and a low of 25° F. was recorded at Eagle Pass. A severe snow storm occurred in the Central Great Plains during the period 17th to 20th but temperatures remained just below freezing.

The cold weather was persistent in the Far West during December. Unusually mild weather prevailed in the East with the exception of Florida where a departure of 6° F. below normal was recorded. Extreme southern Texas and extreme northern Maine also showed minus departures. Although temperatures in the middle portions of the country averaged near normal, they showed much fluctuation, plus departures in Montana ranging from 6° to 9° F. Fairmont, Minn., reported a record-breaking high temperature of 66° F. on the 3rd.

Precipitation in September was generally light except in scattered areas in the East and Northwest, and in the central Gulf area. Extreme southern portions of Louisiana, Mississippi, and Alabama all received twice the normal amount of rain. October was very dry. Only Oregon, Arizona, Florida, and Virginia reported above-normal rainfall; Montana received only 17 percent of normal amount. Precipitation was above normal in November in the Mississippi Valley, Washington, western Montana, and the central Rockies, and eastern portions of the country except Florida. Heavy rains occurred from Arkansas and Louisiana to the Atlantic Coast, especially during the latter part of the month. Montgomery, Ala., recorded more than 8 inches of rain in 24 hours, and the State average precipitation was 459 percent of normal. The southwestern portion of the country was exceptionally dry, Arizona received only 2 percent of the November rainfall, and many stations in that State and in southern California received no measurable amounts. December precipitation was above normal in Atlantic Coastal States from New Jersey to South Carolina, the Ohio Valley, portions of the Middle West and the Mountain States, and in scattered areas of New England and along the Pacific Coast. Most of this precipitation occurred in the form of snow except in the southeastern States, Tallahassee, Fla., and nearby stations reported heavy rainfall on the 9th, with 24-hour amounts exceeding 4 inches.

Three hurricanes affected the mainland of the United States during September. The first skirted the Atlantic Coast, resulting in heavy rains from Florida to North Carolina. The second moved inland from the Gulf of Mexico over southeastern Louisiana on the 4th, and held a northerly course through western Mississippi and Tennessee into southern Illinois where it dissipated on the 6th. Heavy rains occurred along its path in southern Louisiana and Mississippi, and total damage was estimated at \$900,000. There was no loss of life.

On the 22nd a severe hurricane accompanied by heavy rain and winds of more than one hundred miles per hour moved across southern Florida. Three people were killed and 45 hospitalized. Considerable flooding occurred in the Lake Okeechobee region where 10 to 11 inches of rain fell at some stations. Crop damage was considerable. Total damage from this hurricane was estimated at \$6,500,000. On the 5th of October southern Florida was again struck by a hurricane, the center of which passed over Miami. There were no fatalities but damage was estimated at \$5,500,000.

Losses from other storms were unusually low in October. The two most damaging storms were a tornado in Florida on the 5th—a side issue of the hurricane—which caused \$100,000 in damages, and a wind and hail storm in Texas on the 31st resulting in \$180,500 worth of damage. Total losses for the month from local storms amounted to less than \$500,000. There were no serious floods. During the first week of November, several windy days in the Great Plains and Far West caused some damage along the northern Oregon coast on the 3rd, local damage to California citrus crops on the 4th, and severe dust storms in western Oklahoma on the 7th. One of the most severe early season snow storms of record in the central Great Plains occurred on the 17th-20th. In Kansas and central and northeastern Nebraska, where 4 to 20 inches of snow fell, gale force winds sometimes reaching speeds of 70 m.p.h. piled up drifts 20 feet deep. Railroads and highways were blocked, motorists stranded, and communications disrupted. Many communities were completely isolated, and heavy losses of livestock were suffered. Snow in huge drifts also covered parts of eastern Colorado, southeastern South Dakota, northwestern Iowa, and extreme southwestern Minnesota. In eastern Colorado the high winds caused additional damage to small grains by moving soil. At least 9 lives were lost in this storm and millions of dollars of damage incurred. Destructive tornadoes hit Mississippi on the 5th and again on the 18th. Nine people were killed and more than 60 injured; damage amounted to \$700,000. In all, more than \$2,500,000 in damages were suffered throughout the country in November in addition to the damage from the severe snow described above.

During the period December 3rd-6th a storm which moved northeastward from southern California developed great intensity over the Great Plains and the Lake region. Strong winds and heavy snows in the central Rockies gave Salt Lake City a record December fall of 11 inches on the 4th. The strong southerly winds preceding this storm caused numerous dust storms in the central and lower Great Plains. During the second week the northern Cascade and Rocky Mountains received heavy falls of snow. Stampede, Washington, reported a total of 53 inches for the week. In the mountains of California heavy amounts of snow which fell during the third week of December improved the prospects for irrigation water for the summer of 1949. A general snowstorm in the Northeast brought more than 19 inches of snow to New York City, the third greatest fall of record. In the southeastern States heavy rains which fell during the latter part of November caused severe flooding in Mississippi, Oklahoma, and Georgia, with streams overflowing in coastal regions from Mississippi through Virginia in the first week of December. Heavy rainfall in Oregon during the second week caused moderate overflow along the Willamette River.

Weather conditions were generally favorable

for agriculture during the last period of the year. Most crops and livestock in the eastern parts of the country were in satisfactory condition, but the weather had caused some shrinkage of livestock in the West and some damage to citrus. At the end of the year small grains were well protected by snow cover in the West, although the Northeast a much of the Lake region were unusually bare at this time of year.

—F. W. REICHELDERFER

METHODIST CHURCH, The. In the somewhat compact organization of the 13¼ million members of Methodist churches throughout the world about three of every four belong to that branch centering in the United States and known as "The Methodist Church." It was formed by the reunion in 1939 three bodies, all stemming from the Methodist Episcopal Church, organized in 1784 in Baltimore under the leadership of emissaries of John Wesley of London, founder of the movement. Division in one case, over lay participation and the episcopacy resulted in 1828 in the Methodist Protestant Church. The other, over slavery, produced the Methodist Episcopal Church, South, in 1844.

These churches, in merging a decade ago, combined to form America's largest Protestant body with a domestic membership, including preparatory members (592,675) of 9,243,737 and an additional 875,000 overseas membership in the churches of mission lands. Also, closely affiliated are autonomous Methodist churches of Brazil, Japan, Korea, and Mexico, totaling 116,000.

There are, however, in the United States of independent Methodist bodies, totaling 1,900,000 members. The major ones are the African Methodist Episcopal Church (868,755), the African Methodist Episcopal Zion Church (489,244), and the Colored Methodist Episcopal Church (381,000).

The parent body of Methodism, the Methodist Church in Great Britain, numbering 900,000, fostered the organization of other independent bodies in South Africa, Australasia, and New Zealand. Since the word Methodist in the United States most frequently is used in reference to "The Methodist Church," described above, from this point the facts and figures following pertain to that body.

Being a quadrennial year, 1948 records the denomination's General Conference held in Boston in April, the supreme law and policy making authority. The episcopal address of the 63 bishops effective and retired, reviewed accomplishments of the past four years, notably the successful "Crusade for Christ," appraised the "state of the church" and pointed the direction for future movement. The 754 delegates, half of them laymen, considered 1,511 proposals for legislation. Their comments, as usual, resulted in a new book of Discipline.

Primary action of the Conference was the launching of a four-year program, "the Advance Christ and His Church." Bishop W. C. Martin of Dallas, Tex., is Chairman and Dr. E. Harold McCall is the Executive Director, with headquarters in Chicago. The movement calls for a teaching and preaching endeavor to deepen understanding and commitment to "Our Faith, Our Church, Our Ministry, and Our Mission." Study of the World Council of Churches is first on the syllabus, to be followed by preaching missions of several months each emphasis. Expressional aspects of the advance will be a 33 percent increase in benevolence giving, to meet rising costs, plus heavy underwriting by persons and groups of specific mission projects, home and foreign, and overseas relief

New Bishops. Changes in the episcopacy, earlier made by the General Conference, since unification follow a "home rule" principle. In the United States they are now effected by the six Jurisdictional Conferences, and abroad by Central Conferences, which meet quadrennially following the General Conference.

Bishops retiring were H. Lester Smith, Columbus, O.; Titus Lowe, Indianapolis, Ind.; Raymond J. Wade, Detroit, Mich.; Edwin F. Lee, (deceased) Singapore; Wilbur E. Hammaker, Denver, Colo.; Charles C. Selecman, Dallas, Tex.; James H. Straughn, Pittsburgh, Pa.; Lewis O. Hartman, Boston, Mass.; and D. D. Alejandro, Manila, P.I.

Two new episcopal areas were added to the 33 into which the United States had been divided for administrative purposes, San Francisco, Calif., and Jacksonville, Fla. Fourteen new bishops were chosen, consecrated, and assigned, as follows: John Wesley Lord, Boston; Lloyd C. Wicke, Pittsburgh; Marvin A. Franklin, Jackson, Miss.; Roy H. Short, Jacksonville, Fla.; John W. E. Bowen, Atlantic Coast Area, Atlanta; Marshall R. Reed, Detroit; Richard C. Raines, Indianapolis; Hazen G. Werner, Columbus, O.; H. Clifford Northcott, Madison, Wis.; Dana Dawson, Topeka, Kan.; Glenn R. Phillips, Denver; Donald H. Tippet, San Francisco; Gerald H. Kennedy, Portland, Ore. The Philippine Central Conference chose Jose L. Valencia to succeed Bishop Alejandro.

Other New Leaders. Other notable changes in leadership include: Mrs. F. G. Brooks, Mt. Vernon, Iowa, succeeding Mrs. J. D. Bragg, St. Louis, Mo., as president of the Woman's Division of Christian Service (1,455,086 members). Chilton G. Bennett, Chicago, succeeding Dr. George L. Morelock, as Executive Secretary of the Board of Lay Activities; Dr. John O. Gross, succeeding Dr. H. W. McPherson as Executive Secretary, Division of Educational Institutions, Nashville, Tenn.; Dr. Eugene L. Smith to succeed Dr. Ralph E. Diffendorfer as Executive Secretary of the Division of Foreign Missions, New York, effective Aug. 1, 1949; Bishop Titus Lowe, succeeding Bishop Herbert Welch as executive of Methodist Committee on Overseas Relief; Dr. J. Manning Potts, succeeding Dr. Roy H. Short as editor of *Upper Room*.

The Methodist Publishing House, operating in three manufacturing and 14 distribution centers, reported its largest gross receipts in its 159 years, \$11,232,564, and appropriated \$400,000, of the produce of the year, following long custom, to retired preachers' funds. Construction of the first two units of a \$3 million plant expansion was ordered. Dr. Fred D. Stone, one of two publishing agents, retired and was succeeded by Dr. Roy L. Smith, Chicago. Dr. T. Otto Nall was made acting editor of *The Christian Advocate* (Chicago), official weekly, and the Rev. Prince A. Taylor was elected editor of *The Central Christian Advocate* (New Orleans), which serves the denomination's 340,000 Negro members.

Activities. Autumn saw large Methodist participation in an inter-church missionary conference in Columbus, O., followed by 36 regional conferences which gave a new impetus to missions. In addition to routine assignments, 23 men and 28 women were recruited, given six weeks' briefing, and dispatched to Japan and Korea to teach English. A plan of systematic visitation of mission fields by the bishops, approved by the General Conference, was put into immediate operation. Currently there are 1,275 Methodist missionaries working in 49 countries under the supervision of 16 overseas bishops.

Endowments of the 125 educational institutions

related to the denomination, including 9 universities and 69 colleges, are now \$230 million, a sum 52 percent above the 1940 figure. In the same period 100 new buildings have been erected. During this year 134 students from abroad are being supported from a million dollar appropriation for this purpose from the \$27 million fund raised for relief and reconstruction.

Summer institutes, camps, and assemblies for training and service were held in 700 centers. Nearly 500 picked collegians and adult counselors, coached and organized into "Caravan" teams of five, spent the summer in unremunerated service to 1,827 churches. Church school extension service provided formal training for 100 young women who had volunteered for a year's service in rural areas on a subsistence basis. Special effort during the quadrennium to offset declining church (Sunday) school attendance stopped the slump and registered advances of 12 percent in enrollment, 14 percent in attendance. Related to The Methodist Church are 228 hospitals, homes, and other philanthropic institutions.

Correlation of audio and visual activities of several church agencies has been effected in the organization of the Radio and Film Commission of The Methodist Church. A Survey Commission, named by the General Conference, will study the administrative organization of the church. Another commission has engaged an executive to devote himself to recruitment and guidance of youth interested in preparing for Christian life service.

Statistics. Latest figures show 40,397 preaching places in the United States divided into 21,603 pastoral charges. There are 37,458 church schools with an enrollment of 5,343,446 and an average attendance of 2,770,234. Churches and parsonages have a total valuation of \$996,057,805 against which there are debts of \$23,564,184. During the past year \$60 million was paid for building, improvements, and debt reduction. An over-all figure for all Methodist property held locally and by Methodist agencies is \$1,475,530,795. The Methodist Church raised for all purposes during its last reported year \$196,435,168, an advance of \$38,296,711 over the preceding year. The Woman's Societies of Christian Service, organized in 27,478 parishes, raised \$5,630,252 for their educational, missionary, and philanthropic work, in addition to having contributed more than \$10 million to their local church programs.

The Methodist Church operates without a single central headquarters. Between General Conferences the Council of Bishops gives general guidance in some aspects of church life, and the administrative boards and agencies in others. Bishop James C. Baker, Los Angeles, is the 1948-49 President of the Council. New York (150 Fifth Ave.) is home of the Board of Missions, including the Woman's Division. Chicago (740 Rush St.) has World Service, World Peace Commission, Board of Lay Activities, Board of Pensions, and Publishing offices. Nashville, Tenn. (810 Broadway) is home of the Board of Education and additional Publishing activities and of the Board of Evangelism (1908 Grand Ave.). The Board of Temperance is at 100 Maryland Ave. N.E., Washington, D.C. Other branches of administrative agencies are in St. Louis, Louisville, Cincinnati, New Orleans, and San Francisco.

—RALPH STOODY

MEXICO. A republic of North America. The country is largely a high plateau, bordered by cordilleras and volcanic peaks. Coastal lowlands mark the maritime margins of the plateau. Mexico has

two peninsulas, Yucatán and Lower California. Winters as a rule are dry. In the north, temperatures range from cool in the plateaus to hot in the desert. The southeast is tropical, especially Yucatán.

Area and Population. Area, 759,258 square miles. Population, 23,425,000 (1947), of which mestizos make up more than 50 percent, Indians 29 percent and the rest are persons of European descent. Principal cities: Mexico (capital), Guadalajara, Puebla, Monterrey, Mérida, and Tlumpico.

Education and Religion. The constitution guarantees freedom of worship, although it establishes restrictions with regard to the religious ceremonies, which must be confined to churches, temples, and homes. Roman Catholicism is predominant. Spanish is the official language, but numerous Indian languages are spoken in the rural areas. The most recent statistics indicated that about 60 percent of the adult population was literate, and that the number of primary schools of all kinds exceeded 24,000, with an enrollment of 2,154,368. Of these schools, according to President Alemán's report to Congress of Sept. 1, 1947, 12,419 were Federal primary schools, instructing 935,000 pupils. Intermediate education is offered by about 400 schools, with an approximate total registration of 64,000, not including normal and vocational institutions. There are 13 important universities in Mexico. The literacy campaign in the rural areas, under the Cultural Missions, made substantial progress in 1948. In 1947, there were 66 missions operating throughout the country.

Production. The nation's economy is based on agriculture and mining, but rapid progress toward industrialization has been made in recent years. 1947 was a good year for agriculture; production of corn, the staple food, was over two million metric tons. In spite of that, Mexico imported 376,000 pesos of corn (peso = \$U.S. 0.1453; Dec. 2, 1948). Wheat production was 450,000 metric tons. Production forecasts for 1948, of the basic agricultural items were (in metric tons): corn, 2,756,191; wheat, 577,254; beans, 197,750, and rice, 134,387.

Stock raising is an important industry, and Mexico has a population of about 12 million cattle and 5 million hogs. Hoof-and-mouth disease seriously affected the industry in 1947, exports decreasing to a value of one million pesos, as compared with 47 million the previous year. Mineral production is a large item in the country's economy. Silver is the largest export commodity. Industrial metal exports in 1947 increased in the sum of 307 million pesos compared with the previous year. Important minerals produced in 1947 were (metric tons): coal, 86,600; crude petroleum, 671,000; iron ore, 45,300; steel ingots, 26,800; copper, 5,290; lead, 18,600, and zinc, 16,300.

Manufacturing has grown considerably, but in 1947 production figures on the whole decreased, due in general to the lack of export markets. Textile production decreased about 40 percent, and lost markets valued at 95 million pesos. The shoe industry lost markets valued at 4 million pesos, and beer 28 million. As a contrast, the sugar industry, after satisfying domestic needs, had enough production to export 100,000 metric tons to the U.S. and Europe.

Foreign Trade. Exports in 1947 were valued at 2,152 million pesos and imports to 3,237 million, an increase in exports of 12 percent and in imports of 22 percent over the previous year. The geographic distribution of exports was 74 percent to the U.S.; 7.5 percent to Europe; 8.3 percent to Latin America, and the rest to other countries. Im-

ports were 88 percent from the U.S., 7.8 percent from Europe, 1.4 percent from Latin America and the rest from other countries.

A characteristic of Mexican trade in 1947 that alarmed the economists and the government was the large amount of luxury goods imported, which increased from 150 million pesos in 1946 to 260 million, and came mostly from the United States, including 170 million pesos in automobiles, 81 million in radio sets, and 21 million pesos in refrigerators.

The trade picture for the first four months of 1948 indicated a trend toward normalcy. In May, the National Bank of Mexico reported the monthly average for exports at 211.1 million, as compared with 180 million in 1947, while the monthly import average was 223.3 million pesos, compared with 270 million the previous year.

Transportation. Mexico has 12,741 miles of railroad track, on which nearly 300 million ton-kilometers were carried in 1947, an increase of 4 million over the previous year. There are 43,711 miles of highway, and the most recent figures show nearly 180,000 motor vehicles registered. There are 750,000 radio sets and 175,100 telephones. International airlines provide transportation to the outside world, and more than 11 national airlines operate within the country. The merchant marine has about 260 ocean going vessels.

Finance. The 1948 budget calculated revenue at 2,050 million pesos, an increase of thirty percent over 1947, and expenditure estimated at 2,300 million, as compared with 1,665 million in 1947. Largest appropriations were for Communications (415.5 million pesos); Public Debt (361.186 million); Education (246 million); Electrification (235 million) and Defense (240 million). At the end of 1947, currency in circulation was 1,757 million pesos, and bank deposits amounted to 1,742 million. Gold reserves were calculated at \$100 million. Gold exchange holdings were reduced to \$224 million, indicating the dangerous decline of 50 percent over the previous year. Cost of living index in September, 1948, was 376 (1937 = 100). Mexico has a limited list of import controls, and none in exchange.

Government. The Constitution of Feb. 5, 1917, provides for a Federal Union of 28 states, three territories, and the Federal District. The Congress is bicameral, with a Senate of two members for each state and for the Federal District, and a Chamber of Deputies in the proportion of one for each 150,000 inhabitants. The President is elected for a 6-year term, and may not be reelected. On July 7, 1946, Dr. Miguel Alemán was elected President, and took office Dec. 1, 1946.

Events, 1948. Mexico's second year under the administration of President Miguel Alemán was relatively uneventful in domestic politics, but active internationally, and like other Latin American republics, she was seriously concerned with her economic future.

Backed by the strong majority party, *Partido Revolucionario Institucional*, the government had to face the traditional opposition of entrenched interests. Early in the year, the new *Partido Popular* campaigned for changes in the electoral law. This new party was formed by leftist groups, and has among its directors the well-known labor leader Vicente Lombardo Toledano. The question of the day was whether Lombardo would be able to swing labor into his ranks, an interesting parallel with the Wallace-New Party picture in the United States. In February, an interesting illustration of the use of the principle of state sovereignty as op-

posed to the policies of the state government was provided by the attitude of several states which refused to comply with the new tax law revising the municipal tax system. The government enforced the new law, pointing out that Mexico is one of the countries in which the Federal Government gets the smallest share of revenue from the local organs.

Labor Activities. On March 22, the powerful Latin American Confederation of Labor (CTAL) held its third congress. The event was important, because all the Latin American countries were interested in hearing of postwar plans for labor. The presence of Louis Saillant, President of the World Federation of Trade Unions, was significant, as well as the role played by Lombardo Toledano, who had previously been suspended from his position as Director of the Confederation of Mexican Workers (CTM). A serious split in the Mexican labor front was considered possible. The congress was also affected by the withdrawal from the CTAL of important labor groups from Chile and Mexico. One of the resolutions approved by the congress was the demand for the end of the colonial system in the hemisphere, specifically for the return of Chamizal to Mexico, Belize to Guatemala and Mexico, the Falkland Islands to Argentina, part of the Antarctic territory to Chile, and the independence of Puerto Rico. At the end of the congress, Lombardo Toledano was reelected President of the CTAL.

On May 1, all Mexican labor unions celebrated the traditional Labor Day, and in spite of wild rumors that had circulated that they would attempt a revolutionary coup, the festivities were conducted in an orderly manner. A colorful note was provided by famous painters Diego Rivera and David Alfaro Siqueiros, who marched with a group campaigning for U.S. presidential candidate Henry Wallace.

Disturbances in the University. On April 17, a series of strikes and agitation began in the National University, lasting several weeks. The movement was started by a group of law students who petitioned the University Council for several changes, and ended by demanding the resignation of Rector Salvador Subirán. The students took the University buildings, and on the 27th the government was forced to close the institution. The situation was aggravated by clashes between rival student groups, and took a political turn when Antonio Díaz Sotelo Gama, of revolutionary background, announced that he wished to be appointed Rector. An agreement was finally reached between the University Council and the dissenting students, who returned to the classrooms.

International Politics. Mexico was active during the year in world politics. Early in March, taking advantage of Guatemala's claim to British-controlled Belize (see GUATEMALA), the Ministry of Foreign Relations announced its purpose of pressing Mexico's right to that territory, together with Guatemala. At the end of the previous year, President Alemán had told the National Congress that he would safeguard the nation's sovereignty over the territory between the Hondo and Sibún rivers, the title to which they trace back to a Papal Bull of May 4, 1492. This attitude was also stated in the Río de Janeiro Conference of 1947 and firmly maintained at the Bogotá Conference. It was understood that the Mexican and Guatemalan claims have never conflicted.

Another significant international event was the role played by the country in the Economic Conference of Havana, that began in November 1947,

but extended into the following year. The Mexican delegation, headed by Dr. Ramón Beteta, took a firm stand on many important trade issues, and a number of articles were modified at his suggestion. But where Mexico excelled was in the Ninth Inter-American Conference of American States held at Bogotá in April. There, Minister of Foreign Relations, Jaime Torres Bodet, held a leading role all through the Congress. Long before it convened, Mexico had insisted on the necessity of incorporating all the principles of American international law in one organic document, and this was done by the Conference in the Charter of the American States.

An interesting trend in the foreign policy of the country was the official indication of a movement toward closer relations with Argentina. In the past, the Mexican government had been rather cold toward the Perón regime, and had openly called it a dictatorship. But on May 23, the official broadcasting station devoted its time to speeches made by the presidents of the two countries, stressing the need for future friendship between them. This new policy may mean that Mexico intends to strengthen economic ties with the Latin American bloc, rather than with the United States.

The country's policy of not relinquishing any rights to territory extended to the northern archipelago on the California coast. The administration stated that although a legal decision had not been reached with regard to Mexican sovereignty over these islands, they would keep their claim open.

When a military coup, on November 24, overthrew President Rómulo Callegos in Venezuela, (see VENEZUELA), Mexico was the first country to express protest by immediately recalling her Ambassador from Caracas.

—MIGUEL JORRÍN

MICHIGAN. An east north central State. Area: 96,720 sq. mi. Population: (July 1, 1948) 6,195,000, compared with (1940 census) 5,256,106. Chief cities: Lansing (capital), 75,753 inhabitants in 1940; Detroit, 1,623,452. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$433,318,000; total expenditure, \$483,348,000.

Elections. The 19 electoral votes, Roosevelt's in 1944, went to Dewey. In the Senatorial race, Republican incumbent Homer Ferguson won by a small margin over Democrat contender Frank Hook. Democrats won 5 of the 17 House seats for a gain of 2. Democrat G. Mennen Williams beat incumbent Kim Sigler for the governorship, and Democrats John W. Connolly and Stephen J. Roth won the lieutenant governorship and attorney generalship, respectively. Republican nominees won the following: Secretary of State—F. M. Alger; Treasurer—D. Hale Brake; Auditor—Murl K. Aten. The voters approved measures to provide increased legislative salaries, constitutional revision, and succession to the governorship in case the governor-elect dies.

Officers, 1948. Governor, Kim Sigler; Lieut. Governor, Eugene C. Keyes; Secretary of State, F. M. Alger, Jr.; Attorney General, Eugene F. Black; State Treasurer, D. Hale Brake; Auditor General, Murl K. Aten.

MIDWAY ISLANDS. A group of two small islands and several sand islets of the Hawaiian group, in the Pacific (177° 23' W. and 28° 13' N.), 1,149 miles northwest of Honolulu. The islands are inside and near the southern edge of a circular reef about five

miles in diameter. Sand Island is about one mile long and one and one-half miles wide, containing about 850 acres. The highest point is only 43 feet above sea level. Eastern Island has an area of 328 acres. To the westward of the lagoon is Welles Harbor which affords a safe anchorage except during the severest weather. Midway is under the jurisdiction of the U.S. Department of the Navy.

MILBANK MEMORIAL FUND. A Fund established in 1905, with assets of \$10,111,392, at the end of 1947. Appropriations for grants and projects in that year totaled \$287,878. The scope of the Fund, while widely diversified, has been principally in the field of public health. At present its special interests in this field are nutrition, housing, population trends, and the appraisal of public health methods and procedures. In 1948 thirty-two organizations received funds. Membership: 10. President, Albert C. Milbank; Executive Director, Frank G. Boudreau, M.D. Office: 40 Wall St., New York 5, N.Y.

MILITARY PROGRESS. Land armies played a dominant role in the armed clashes that continued throughout the year 1948 to plague a world officially at peace. While most of the fighting, as in China, Indonesia, Malaya, the Philippines, Indo-China, and Greece, was officially characterized as governmental action to suppress rebellion or insurgency, it was true nevertheless that most of it was between formally organized (and in many cases very skillfully and efficiently organized) military units. Yet the traditional and conventional land army, without benefit of the more modern methods of mass destruction, and without large scale participation by air components, continued to bear the brunt of the battle and of the losses.

Except for the well-known and generally recognized ability of land armies to seize and occupy territory without first totally destroying it, these events portend no particular trend. It was rather the major powers, maneuvering against each other in an ominous "cold war," who worked feverishly and secretly in the development of unconventional weapons and tactics. The atom bomb, radioactive clouds, biological warfare, psychological warfare, insidious infiltration of agents to bring about destruction and deterioration from within—these and more unmentionable terrors held the attention, and the purse strings, of the great powers.

World Strength. When consideration is given to the sizeable military forces that Soviet Russia, the United States, France, Great Britain, and some components of the British Commonwealth have committed to the occupation of the homelands of their defeated enemies, the sizes of the land forces under arms do not appear to be too enormously exorbitant compared with those maintained prior to World War II. This is the conclusion of the editors of *United Nations World*, which publication, in the absence of the official figures formerly furnished to the League of Nations, made an independent survey of the standing armies of the world. In publishing its figures (June 1948 issue) *United Nations World* commented:

"This roll call of the armies of the world reveals that more than three years after VE-Day, there are still 15,362,899 men under arms in 57 countries. And yet, this is a promising figure. With the exception of Yugoslavia which maintains an oversized army in a high state of preparedness, no country, and certainly none of the major powers, maintains even a fraction of its war manpower potential."

The United States had an actual strength, as of Nov. 28, 1948, of 657,769 men, as compared with an authorized strength of 837,000 and an appropriated strength of 790,000, both plus 110,000 18-year-olds authorized for one-year enlistments.

For the Soviet Union, the *United Nations World* survey gave an estimated effective strength of 1,900,000 excluding the para- and semi-military formations, the militarized police, and the troops of the Ministry of the Interior. For the United Kingdom, the survey placed the British army at 534,000 effectives in April of 1948, with plans to reduce it to 345,000 by March, 1949.

The *United Nations World* survey gave the following strengths for armies of the rest of the world:

- Afghanistan—400,000 officers and men.
- Albania—Standing army of approximately 60,000 men in the process of organization.
- Argentina—National militia of 100,000 officers and men on 1-year active service, then 9 years inactive reserve.
- Australia—Permanent force of 35,000 officers and men; militia force of 75,000.
- Belgium—Standing army (est.) of 60,000 officers and men (excluding police under military control).
- Bolivia—Standing army of 15,000 (plus 12,000 police under military control).
- Brazil—Army of 80,000 (plus 38,000 police under War Office control).
- Bulgaria—Peace treaty permits land army of 56,800.
- Canada—Peacetime militia of 18,700.
- Chile—National militia of 25,000.
- China—Kuomintang army's present mobilized strength (est.) 5,000,000 officers and men. Approximately 1,500,000 in Communist armies.
- Colombia—Peacetime strength of standing army is 10,000 (plus 5,500 police under military control).
- Cuba—Standing army of 900 officers and 16,000 men.
- Czechoslovakia—New peacetime army of approximately 150,000.
- Denmark—National army now has 24,000 men.
- Egypt—Army has approximately 100,000 men.
- Ethiopia—New standing army consists of 20,000 effectives.
- Finland—Peace treaty authorizes land army of 34,000.
- France—New standing army is composed of 500,000 men.
- Greece—Army engaged in civil war is estimated at 165,000.
- Hungary—Peace treaty permits land army of 65,000.
- India and Pakistan—The two countries have armies totaling 1,000,000.
- Iran—Army of 90,000 is in the process of reorganization.
- Iraq—Standing army of 30,000.
- Italy—Reorganized Italian Republican Army is estimated at 250,000.
- Mexico—Postwar army of 57,500.
- Netherlands—Approximately 175,000 effectives.
- New Zealand—Standing army of 11,000.
- Norway—National militia of 15,000.
- Paraguay—Military establishment of 350 officers and 5,500 men.
- Peru—Standing army of 2,000 officers and 30,000 other ranks, plus 10,000 militarized police.
- Poland—Standing army of 200,000 effectives.
- Portugal—Army of 3,200 officers and 26,800 other ranks.

Rumania—Peace treaty allows army of 125,000.

Spain—Recent reorganization acts authorize a military organization of 500,000 officers and men.

Sweden—Army of 57,500.

Switzerland—National militia with 46,200 in a rather complex military organization.

Turkey—Standing army of 20,000 officers and 174,000 effectives.

Uruguay—Active army of 26,000 volunteers.

Venezuela—Active army of 10,000 effectives.

Yugoslavia—Standing army of 800,000.

The United States Army. In June, 1948, when Congress enacted the new Selective Service law, the U.S. Army was down to a low strength of 552,000, all but a negligible portion of which was engaged in such essential activities as occupation, military government, administration, overseas garrisons, with little remaining for development of an effective potential for combat. Losses averaged 20,000 a month until the Spring of 1948. Approval of the draft act was followed by a stimulation of enlistments which rose from 20,000 a month to 39,000 in July and 45,000 in August.

These increases in strength were applied primarily to the Mobile Striking Force. Beginning in the last half of the year, the Army endeavored to restore some of its lost combat potential by building its General Reserve of forces within the Continental United States, to compose a Static Defense Force, for the defense and protection of key installations, and the Mobile Striking Force, for immediate deployment overseas. It was planned to bring the Mobile Striking Force to a strength of 228,000 men. The eventual program contemplates 25 fully equipped divisions (including Regular Army and National Guard) plus necessary supporting combat and service troops (including elements of the Organized Reserves).

Functions. Although not a participant in the struggle between the Navy and the Air Force, the U.S. Army was given a more clearly defined list of functions as a result of the Key West conference of the Joint Chiefs of Staff with the Secretary of Defense (see NATIONAL MILITARY ESTABLISHMENT, NAVAL PROGRESS). Section IV of the Key West agreement gave the Army its basic directive upon which its future composition, equipment, and tactics must be based, as follows:

"The United States Army includes land combat and service forces and such aviation and water transport as may be organic therein. It is organized, trained and equipped primarily for prompt and sustained combat operations on land. Of the three major services the Army has the primary interest in all operations on land, except in those operations otherwise assigned herein.

A. Primary functions: 1. To organize, train, and equip Army Forces for the conduct of prompt and sustained combat operations on land. Specifically: (a) To defeat enemy land forces. (b) To seize, occupy, and defend land areas.

2. To organize, train, and equip Army anti-aircraft artillery units.

3. To organize and equip, in coordination with the other Services, and to provide Army forces for joint amphibious and airborne operations, and to provide for the training of such forces in accordance with the policies and doctrines of the Joint Chiefs of Staff.

4. To develop, in coordination with the other Services, tactics, technique, and equipment of interest to the Army for amphibious operations and not provided for in Section V, paragraph A4 and paragraph A 11c (*Functions of the U.S. Navy and Marine Corps*).

5. To provide an organization capable of furnishing adequate, timely, and reliable intelligence for the Army.

6. To provide Army forces as required for the defense of the United States against air attack, in accordance with joint doctrines and procedures approved by the Joint Chiefs of Staff.

7. To provide forces as directed by proper authority, for occupation of territories abroad, to include initial establishment of military government pending transfer of this responsibility to other authority.

8. To develop, in coordination with the Navy, the Air Force, and the Marine Corps, the doctrines, procedures and equipment employed by the Army and Marine forces in airborne operations. The Army shall have primary interest in the development of these airborne doctrines, procedures and equipment which are of common interest to the Army and the Marine Corps.

9. To formulate doctrines, and procedures for the organization, equipping, training and employment of forces operating on land, at division level and above, including division, corps, army, and general reserve troops, except that the formulation of doctrines and procedures for the organization, equipping, training and employment of Marine Corps units for amphibious operations shall be a function of the Department of the Navy, coordinating as required by paragraph A 11c, Section V.

10. To provide support, as directed by higher authority, for the following activities:

a. The administration and operation of the Panama Canal.

b. River and harbor projects in the United States, its territories and possessions.

c. Certain other civil activities prescribed by law.

B. Collateral functions: The forces developed and trained to perform the primary functions set forth above shall be employed to support and supplement the other Services in carrying out their primary functions, where and whenever such participation will result in increased effectiveness and will contribute to the accomplishment of the overall military objectives. The Joint Chiefs of Staff member of the Service having primary responsibility for a function shall be the agent of the Joint Chiefs of Staff to present to that body the requirements for and plans for the employment of all forces to carry out the function. He shall also be responsible for presenting to the Joint Chiefs of Staff for final decision any disagreement within the field of his primary responsibility which has not been resolved. This shall not be construed to prevent any member of the Joint Chiefs of Staff from presenting unilaterally any issue of disagreement with another Service. Certain specific collateral functions of the Army are listed below:

1. To interdict enemy sea and air power and communications through operations on or from land.

2. To provide forces and equipment for and to conduct controlled mine field operations."

Departmental Reorganization. The first major reorganization since 1946 became effective in the Department of the Army on Nov. 15, 1948. Redefining the relationship among a number of Departmental agencies, the changes were promulgated as the first step in a long-range program to simplify and facilitate administration throughout the Army.

The Chief of Staff (Gen. Omar N. Bradley) instead of having one Deputy was given one Vice

Chief of Staff and two Deputies. Gen. J. Lawton Collins, formerly the Deputy, was made the Vice Chief of Staff, while Lt. Gen. Wade H. Haislip was made Deputy for Administration and Lt. Gen. Albert C. Wedemeyer was made Deputy for Plans and Combat Operations.

The duties of the Assistant Secretary of the Army (Gordon Gray) were materially enlarged to include over-all supervision of Army logistics. Four Administrative services—the Adjutant General, the Provost Marshal, the Chaplains Corps, and Special Services—were placed directly under the Director of Personnel and Administration (Lt. Gen. Willard S. Paul).

The Director of Logistics (Lt. Gen. Henry Au- rand) was given direct control of seven technical services—Chemical Corps, Medical Department, Signal Corps, Corps of Engineers, Ordnance Department, Transportation Corps, and Quartermaster Corps.

The Finance Department was placed under the Army Comptroller (Maj. Gen. Edmond H. Leavey). The Judge Advocate General's office was transferred from the administrative services to the Special Staff.

The Legislative and Liaison, Public Information, and Army-Air Force Troop Information Divisions were moved from the Special Staff to form a group under the Chief of Information, directly under the Office of the Chief of Staff.

In announcing the new organization the Secretary of the Army (Kenneth C. Royall) indicated it would not require any increase in number or rank of personnel. He felt that it might ultimately result in a savings of staff personnel. Its primary object is to increase efficiency, to expedite business, and to obviate the necessity for any sudden change in an emergency.

Plans for the new organization were worked out in the office of the Army Comptroller, which itself was a development of 1948, having been established in January "in order to improve the modern management techniques in the business administration of the Army, and to more effectively utilize accounting as a tool throughout the Army in the control of operations and costs."

The new Army Comptroller became the Budget Officer, Fiscal Director and Management Engineer for the Department of the Army. First appointee to the new post was Maj. Gen. George J. Richards, who had been Chief of the old Budget Division. He was later succeeded by Maj. Gen. Edmond H. Leavey.

The duties of the Army Comptroller include general supervision and control of all budgetary matters, preparation of budget estimates, formulation and coordination of basic fiscal policy, supervision of use of foreign exchange by the Army overseas, development of cost analysis and control, survey of effective utilization of manpower and of administrative organization, methods and procedures, in the interest of efficiency and economy, and coordination of statistical data. The personnel and functions of the Budget Division, the Manpower Board, the Central Statistical Office and the Management Office of the office of the Chief of Staff, were assigned to the Office of the Army Comptroller.

Ground Forces. A reorganization of the Army Ground Forces became effective on March 15, under which the old office of Headquarters, Army Ground Forces, was converted into the Office, Chief, Army Field Forces. The six field Armies within the continental United States which were formerly commanded by the Commanding General, Army Ground Forces, were transferred so that

they became directly responsible to the Chief of Staff, U.S. Army. All individuals, units, and installations formerly assigned to Headquarters, Army Ground Forces, except the Headquarters itself, were reassigned to the Army in whose geographical area they were located.

End of Horses. On July 1 the Army's Remount Service was transferred to the Department of Agriculture under an Act of Congress sponsored by the Department of the Army. At the time of the transfer, which marked the virtual end of the horse in the United States Army, the Remount Service had 482 stallions, 423 brood mares, 581 riding horses, 41 draft horses, and 280 young horses of four years or younger. There remained in the Army practically nothing of the once proud mounted fighting units. There are now no mounted tactical combat units.

Training. Considerable emphasis was placed upon cold weather training, with exercises in Alaska continuing to occupy most attention in purely ground force maneuvers.

Joint exercises with the Navy and the Air Force were also emphasized under the policies of the National Military Establishment. As in the preceding year, cadets of the U.S. Military Academy joined with midshipmen of the U.S. Naval Academy in Exercise Camid, an amphibious maneuver involving ground, sea, and air forces, held in the Chesapeake Bay area.

The Army and Air Force participated in Exercise Yukon which involved the movement of rifle companies from Ft. Lewis, Wash., to Alaska, and the conduct of field maneuvers, including air-transported operations within Alaska. Exercise Snowdrop at Pine Camp, N.Y., featured Army and Air Force units in battalion scale airborne maneuvers.

In the late Summer and Fall the Army engaged with the Air Force and Navy and Marine Corps aviation units in Exercise Combine III, centering around Eglin Field, Fla., and involving team work in bombardments, air support, and airborne missions.

Reserve and National Guard. Progress in the growth and training of the Reserve and the National Guard was not satisfactory. The civilian components through their organized associations attacked the Department and the Regular establishment in strong language charging lack of support and co-operation. A large scale study of the Reserve components of all the Armed Services was made by a joint board convened by order of the Secretary of Defense, Mr. James Forrestal, under the chairmanship of Mr. Gordon Gray, Assistant Secretary of the Army (see NATIONAL MILITARY ESTABLISHMENT). Its comprehensive report was the basis on which legislation was being prepared for the 81st Congress. Later President Truman issued an order directing the Departments to increase the efficiency of their reserves.

Foreign Armies. Russia has found no reason to change its policy of first emphasis upon its artillery which it terms the "God of War." Lt. Gen. Anatoli A. Blagonravov, president of the Soviet Academy of Artillery Science, on the occasion of Artillery Day (November 21) wrote an article in the Literary Gazette in which he contended that artillery has supplied the answer to technological developments in arms throughout history.

"With the appearance of armor," he wrote, "there came armor-piercing artillery; with the appearance of aviation there appeared anti-aircraft artillery, and with the tank, anti-tank artillery."

Field Marshal Lord Montgomery, Chief of the British Imperial General Staff, outlined the funda-

mental factors influencing British planning in an address at the annual conference and exercise for Senior Officers at the Staff College at Camberly. He described these factors as:

"(1) The withdrawal from India, which meant that we no longer had to keep a garrison of 40,000 regular troops in that country, but on the other hand produced fresh commitments formerly met by the Indian Army;

"(2) The introduction of national service, with liability to reserve service in the Territorial Army;

"(3) The pace of modern warfare, which demanded a greater degree of preparedness. We could no longer count on having a breathing space at the beginning of another war to build up and train our land forces."

The old conception of two Armies, Regular and Territorial, had not, he said, stood up to the test of modern war. Its place would be taken by a National Army containing regulars, a National Service element, and a Territorial Army. It would be necessary, he said, to keep in hand a well-equipped regular force available to go anywhere at short notice.

Preparations were being made to put into effect Britain's new National Service Act. This Act provides that from Jan. 1, 1949, until Jan. 1, 1954, all male British subjects who have reached the age of 18 and have not reached the age of 26, and who have not served in the Armed Forces before Jan. 1, 1947, will be liable for compulsory service in the Armed Forces. "National Service Men," as they will be called, will serve for 12 months whole-time and for six years in the Reserve, a total of 7 years in all.

The Cabinet of Australia decided to create a special subcommittee to study the effects of ordinary bombs, flying bombs, rocket projectiles, and atom bombs. Its duties are to advise the Government on the latest developments of warfare in these fields.

The Greek Army demonstrated during the year an improvised mine-sweeper such as they are using in the guerrilla country. A magnetized bar is mounted from the front of the vehicle and is so connected that when it passes over metal it automatically stops the vehicle to permit the occupants to dismount and remove the mine or obstacle.

During the year most of the nations outside the Soviet orbit sent military missions, or military "visitors" to the United States, to observe its military schools and training. —LEROY WHITMAN

MINERALS AND METALS. The output of mines in the United States forged ahead in 1948 to an all-time peak value of 15,600 million dollars, 26 percent above the former record in 1947 of 12,400 million dollars, Secretary of the Interior J. A. Krug announced on Jan. 2, 1949.

The prodigious dollar volume of mineral production resulted not only from higher commodity prices but also from a tonnage output surpassing any previous effort in peace or war, the Secretary stated. The tonnage mined in 1948 exceeded that of 1947 by 4 percent, according to preliminary estimates prepared by the Bureau of Mines.

Mineral products were called upon to fuel the Nation's industries and transportation at high gear, to help construct and equip houses, factories, and travel facilities, to maintain a military establishment commensurate with world responsibilities, and to replenish heavily-farmed soils. Most of the great mineral output was needed in the United States, but important quantities were shipped abroad to aid rehabilitation of regions scarred by

war. Fuels made the most impressive gain in 1948 of any mineral group, according to the analysis submitted to James Boyd, Bureau of Mines Director, by the Economics and Statistics Division. The value of mineral fuels produced in 1948 was 30 percent greater than in 1947, partly a reflection of the record quantity of petroleum extracted. Other nonmetallic minerals increased 7 percent, and metals 27 percent. On a physical volume basis, the tonnage of mineral fuels produced in 1948 advanced 4.8 percent, other nonmetallic minerals 4.7 percent, and metals 2.9 percent. Details on 1948 mineral production follow:

Metals. The steel and aluminum industries in 1948 were at levels surpassing 1947, but outputs of the major nonferrous metals—copper, zinc, and lead—were somewhat lower. Large gains quantitatively were achieved for bauxite and molybdenum in 1948, though both were produced at rates a third below those of 1944. The sharpest decline was in mercury, whose annual rate of output in December, 1948, was less than in any year during a century of record-keeping.

Iron and Steel. The steel industry operated at near-peak levels during most of 1948 and made about 88 million net tons of ingots and castings, a 3½-percent gain over the previous year. This was made possible by approximately identical percentage increases in output of iron ore and pig iron, and by an all-time high in scrap consumption. Steel production in 1948 was the third greatest in history. It would undoubtedly have equaled the 1944 peak of 89.6 million tons except for the work stoppage at coal mines in April which curtailed steel output at some furnaces, and with lesser effect, shortages of facilities for transporting coke and pig iron.

Ferro-alloy Metals. Mine shipments of manganese ore dipped 4 percent in 1948, those of chromite more than tripled, and those of tungsten and molybdenum increased 29 and 22 percent, respectively. The United States continued to have to rely on other countries for the bulk of its requirements of ores of all ferro-alloy metals except molybdenum and vanadium. Shipments of ferro-alloys from furnaces are estimated to have surpassed the 1947 total by 9 percent in tonnage and 36 percent in value. Ferromanganese production established a record high in 1948. Late in the year output of ferromanganese was initiated in Montana.

Copper, Zinc, and Lead. Production of copper, zinc, and lead in 1948 was about 1, 4, and 6 percent, respectively, below 1947 tonnages, but prices were raised enough to effect respective increases of 3, 22, and 18 percent in value of output. During the first 8 months of 1948 copper mine production was at the practical capacity rate of about 875,000 short tons annually. A strike of locomotive engineers at the Utah Copper mine at Bingham, Utah—the country's largest copper mine—in the late months of the year interrupted the high production rate sufficiently to reduce national annual output by 5 percent. Similarly, retardation of zinc and lead output was an effect of labor-management difficulties evidenced by work stoppages in the Tri-State district and in Southeastern Missouri.

Light Metals. The United States was obliged to import nearly two-thirds of its bauxite needs in 1948, but the achievement of a peacetime record aluminum production was made possible partly by a peacetime record output of domestic bauxite. Production of magnesium metal was held at a low level, awaiting wider consumer acquaintance with its advantageous properties and absorption of heavy stocks of scrap.

Gold and Silver. Gold mine production was 5 to 10 percent lower in 1948 than in 1947, largely as the result of suspension of marginal operations caught between rising production costs and a fixed price on sales of the metal. The decline in output of base metals of which gold is a byproduct also had a depressing effect. Gold output continued, however, above the other years since 1942. Mine production of silver, responding to the second full year of the higher Treasury purchasing price of 90½ cents an ounce, was 5 percent above that in 1947 and was the greatest since 1943.

Other Metals. Mercury production in 1948 was 40 percent lower than in 1947 and the smallest since 1933. Of the larger producers, only two were in operation in December. Mining of the platinum-group metals in Alaska, the principal domestic source, in 1948 continued at about the same rate as in 1947, but nearly all requirements must be imported. Of the new supply of platinum-group metals in the first three quarters of 1948, a third (mostly palladium) came from the U.S.S.R. Unabated demand for white pigments prompted ilmenite (titanium) production and shipments in 1948 to be larger than ever before. Rutile production fell 17 percent from the record high rate for 1947, but mine shipments reached a new all-time peak. Small decreases in the output of nonferrous-metal refineries were partly responsible for apparent declines in the recovery of byproduct cadmium and bismuth. Production of certain other byproduct metals, particularly indium, tellurium, and gallium, was probably less because of limited demand.

Mineral Fuels. Petroleum and Natural Gas. Production of crude petroleum gained 8 percent in 1948 over 1947 and exceeded 2,000 million barrels for the first time. The output was valued at \$5,200 million, an average of \$2.59 per barrel. Marketed production of natural gas increased 10 percent to 4,870,000 million cubic feet in response to insistent demand, particularly in areas of active competition between the principal fuels. The gas was valued at approximately \$312 million at wells and \$1,170 million at points of consumption. The natural gasoline industry experienced its most successful year in 1948, disposing of a record volume of output at prices materially above the averages of 1947. Production of all light products gained 9 percent over 1947 to 6,020 million gallons, of which 2,110 million were liquefied petroleum gases. The total value of these products at the plants was \$434,200,000.

Bituminous Coal. Production of bituminous coal and lignite in 1948 was estimated at 596 million net tons, a decrease of 5 percent from the record output of 631 million tons in 1947. Decreased production was due to a work stoppage in March and April and to reduced exports and domestic demand during the latter half of the year. The average value per net ton at the mine for soft coal in 1948 was estimated at \$4.87—a new record and an increase of 17 percent over the previous high of \$4.16 in 1947.

Pennsylvania Anthracite. The estimated production of 57 million net tons of Pennsylvania anthracite in 1948 is a slight decline from the 57.19 million tons produced in 1947. Anthracite is primarily a home-heating fuel, and the decline in output can be attributed to the warmer-than-normal weather prevailing in the New England and Middle Atlantic States in November and December. The estimated value of the 1948 production was \$460 million, a slight increase over the 1947 value of \$413 million.

Coke and Coal Chemicals. Production of beehive and oven coke in 1948 reached an all time high of 74.1 million net tons, a slight increase over the previous record of 74.03,000 tons attained in the war year 1944. The peak 1945 output was achieved despite a decline of 6 percent from 1947 in output from beehive ovens, the decline in beehive production having been more than compensated for by the 2-percent increase in oven coke output. Total values of coke and coal chemical materials at producing plants in 1948 were estimated at \$650 million and \$278 million, respectively. These values are the highest ever attained for coke-oven products and are increases of 9 percent and 25 percent over corresponding value data for 1947.

Other Nonmetallic Minerals. Nonmetallic minerals were in strong demand during 1948. All-time record shipments were made of sulfur, lime, salt, phosphate rock, potash, cement, gypsum, stone, kaolin, barite, talc, boron minerals, and vermiculite.

Building Materials. Output of construction materials again increased in 1948. A 16 percent gain in production of gypsum was recorded, and cement sales climbed 7 percent. Stone quarries and sand and gravel pits yielded larger quantities than in 1947. Output was stepped up for pumice, vermiculite, and perlite, which are becoming widely used as lightweight aggregate.

Fertilizers. Continuity of farm income at record levels was reflected in great demand for fertilizer to stimulate raising the tremendous quantities of food needed for world consumption. Output of phosphate rock and potash increased 5 and 7 percent, respectively, in 1948 to reach new records. Supplies of potash, as well as of nitrogen, remained scarce throughout the year, but by the closing months production of phosphate rock appeared to have equaled demand.

UNITED STATES MINERAL PRODUCTION

Product	1947	1948*
Metallic.....	\$ 2,913,000,000	\$ 3,000,000,000
Nonmetallic: Fuel.....	7,843,000,000	10,180,000,000
Other.....	1,635,000,000	1,750,000,000
Total nonmetallic.....	9,478,000,000	11,930,000,000
Grand total.....	12,391,000,000	15,020,000,000

* Preliminary estimate.

Chemical Raw Materials. The minerals used most extensively by the chemical industry are sulfur, salt, and lime—all three of which were shipped in record quantities in 1948. The United States continued to meet the world's expanded requirements of boron minerals. Fluorspar shipments continued at high levels in 1948 but were slightly under the peacetime record established in 1947. Barite purchases by oil-well drillers and chemical manufacturers neared the million ton mark in 1948.

Other minerals. Increased mechanization of feldspar mines and mills helped effect a greater output in 1948 compared with 1947. Demand for feldspar by potteries and porcelain enamel plants was insistent, but total shipment fell below the 1946 peak principally because of a decline in glass containers manufactured. Production of talc and pyrophyllite exceeded 500,000 tons. Monazite mining in the United States was resumed on a small scale in 1948.

Mineral Production by States. The value of mineral output of the States of the United States for the calendar years 1946 and 1947 (with rank and percent of total value for the United States in 1947) are listed in the accompanying table.

U.S. MINERAL PRODUCTION, BY STATES*

State	Value, 1948	Value, 1947	Rank (1947)	% U.S. total
Ala.	\$123,029,000	\$159,788,000	15	1.64
Alaska	12,426,000	18,387,000	38	.19
Ariz.	118,086,000	186,751,000	13	1.92
Ark.	65,985,000	90,833,000	23	.93
Calif.	592,294,000	855,553,000	3	8.79
Colo.	77,573,000	105,135,000	22	1.08
Conn.	5,584,000	5,677,000	46	.06
Del.	491,000	613,000	50	.01
D.C.	710,000	746,000	49	.01
Fla.	31,093,000	45,992,000	28	.47
Ga.	30,449,000	37,137,000	33	.38
Idaho	44,444,000	67,786,000	27	.70
Ill.	358,628,000	428,327,000	5	4.40
Ind.	107,479,000	141,086,000	17	1.45
Iowa	35,957,000	39,378,000	32	.41
Kans.	194,563,000	267,020,000	10	2.75
Ky.	272,558,000	395,745,000	7	4.07
La.	273,882,000	397,312,000	6	4.08
Maine	4,389,000	6,049,000	45	.06
Md.	21,991,000	25,604,000	35	.28
Mass.	9,745,000	11,859,000	41	.12
Mich.	133,310,000	170,616,000	14	1.75
Minn.	155,734,000	219,685,000	11	2.26
Miss.	33,672,000	68,092,000	26	.70
Mo.	88,357,000	107,021,000	21	1.10
Mont.	62,114,000	87,167,000	24	.90
Nebr.	7,277,000	7,383,000	44	.08
Nev.	35,454,000	42,639,000	30	.44
N.H.	1,451,000	1,574,000	47	.02
N.J.	33,513,000	44,250,000	29	.46
N. Mex.	111,938,000	156,554,000	16	1.61
N.Y.	103,571,000	130,735,000	18	1.34
N.C.	20,428,000	23,699,000	36	.24
N. Dak.	5,118,000	7,629,000	43	.08
Ohio	221,356,000	296,147,000	9	3.04
Okla.	263,282,000	351,578,000	8	3.61
Oreg.	11,807,000	16,658,000	39	.17
Pa.	1,074,004,000	1,266,285,000	2	13.02
R.I.	561,000	785,000	48	.01
S.C.	8,189,000	10,362,000	42	.11
S. Dak.	18,389,000	23,636,000	37	.24
Tenn.	68,031,000	84,425,000	25	.87
Tex.	1,313,003,000	1,928,699,000	1	19.80
Utah	95,506,000	208,639,000	12	2.12
Va.	90,823,000	128,700,000	19	1.32
Vt.	12,066,000	14,819,000	40	.15
Wash.	33,029,000	40,027,000	31	.41
W. Va.	588,925,000	855,156,000	4	8.79
Wis.	28,596,000	34,942,000	34	.36
Wyo.	78,745,000	118,422,000	20	1.22

* In this table iron ore, not pig iron, is taken as the basis of iron valuation. The many revisions in the 1948 State totals result from the substitution of data for natural gas valued at points of consumption by data for natural gas valued at wells.

See CHEMISTRY, COAL, COPPER, GOLD, IRON AND STEEL, MANGANESE, and ZINC.

MINES, United States Bureau of. (Department of the Interior.) Heavy mineral requirements of America's booming postwar economy and the need for maintaining a strong mineral position in world affairs gave added impetus in 1948 to the Bureau of Mines' efforts to help industry achieve maximum efficiency, safety, and conservation in extracting, preparing, and utilizing the Nation's mineral resources. Despite the steady progress made by the American minerals industries in producing better products from lower-grade ores, heavy wartime demands had seriously depleted domestic mineral reserves—a development which gave special significance to the Bureau's technologic and scientific studies.

Mineral Development. In anticipation of future emergency needs, the Bureau last year carried forward 30 exploration projects. Of these, 11 provided bases for important stock-piling estimates of reserves of strategic minerals, notably, lead, zinc, copper, iron and titania. In addition, the Bureau established two more "core libraries" for the storage of drill cores obtained during Governmental and private projects, and also studied mining techniques, such as boring blast holes with diamond drills instead of percussion drills. Other mineral investigations included a study of the most eco-

nomical and effective method of drilling and blasting taconite—a low-grade iron ore which is available in large quantities in the Lake Superior region—studies of dynamic stresses in rock, and completion of two sets of model studies of pillar stresses in room and pillar mining. Investigations were also started to determine whether the mica, beryl, tantalum minerals, and other valuable constituents of pegmatite deposits in Virginia and South Dakota can be mined separately, or mined together and separated effectively afterwards.

Metallurgical Studies. As during the previous year, the Bureau's metallurgical studies were aimed at four major objectives: (1) developing improved methods of beneficiating and processing low-grade ores; (2) developing new and improved products; (3) developing substitutes for scarce metals and minerals; and (4) recovering by-products and utilizing industrial wastes. Advances were made toward the ultimate use of low-grade iron ores and in separating the iron from titaniferous magnetites and recovering titanium as a by-product. Intensifying its studies of the recovery of lead, zinc and copper from low-grade ores, the Bureau last year also improved processes for producing aluminum from materials other than bauxite. Increased pilot-plant production of the Bureau-developed light metals, zirconium and titanium, as well as investigations of their alloys, also formed part of the metallurgical-research pattern.

Substantial progress was made in the Bureau's search for synthetic substitutes for sheet mica, essential to the electrical industry, and a method was devised for purifying sand so that it can be used in the manufacture of high-quality glass. The extensive metallurgical research program also included the development of strong, lightweight concrete aggregates, improvement of methods of manufacturing ceramic products from domestic minerals, and a special investigation of the practicability of developing further huge phosphate deposits in Utah, Idaho, Wyoming and Montana.

Research in Coal. Faced with a growing shortage of good-quality coking coal, Bureau scientists last year concentrated on developing methods for upgrading low-grade coals to produce metallurgical coke and sought ways of making greater use of vast deposits of lignite and sub-bituminous coal. The Bureau developed a method for storing lignite to prevent spontaneous combustion and also, on a pilot-plant scale, converted this fuel into gas suitable for reducing iron ore, or after further treatment, for making synthetic liquid fuels. New methods for drying and preparing sub-bituminous coal for safe and economical shipment also were examined. In studying the effect of mechanized mining on the percentage of coal recovered, as well as the development of mechanical equipment suitable for use in steeply-pitching anthracite beds, the Bureau also searched for effective ways of recovering and using fine coal now lost in washing. A site at Schuylkill Haven, Pa., was acquired and plans completed for the Anthracite Research Laboratory for which Congress appropriated \$450,000, and a site at Grand Forks, N.Dak., was selected for a newly-authorized lignite research laboratory.

Synthetic Liquid Fuels. Because of steadily rising American consumption of petroleum and a relatively low rate of discovery of new petroleum reserves, the Bureau's studies in the production of synthetic liquid fuels from coal, lignite, and oil were of special importance. Of the four major installations under construction, the oil-shale demonstration plant of the Naval Oil Shale Reserves near Rifle, Colo., began producing 100 barrels of oil

per day, and new laboratory facilities were completed at Laramie, Wyo., for further oil-shale research. As further indications of the notable progress made last year in the Bureau's synthetic liquid fuels program, a coal-to-oil laboratory was dedicated at Bruceton, Pa., and two demonstration plants for producing liquid fuels by different processes were under construction at Louisiana, Mo.

Work was continued on a 200-barrel-a-day hydrogenation (Bergius process) plant and on a 50- to 80-barrel-a-day gas synthesis (Fischer-Tropsch process) plant. Scheduled for completion during 1949, the latter plant will employ a newly-developed converter unit which can be enlarged to produce 1,000 barrels a day, as compared with the 18-barrel-a-day capacity of German converters. At Morgantown, W.Va., the Bureau investigated processes for economical production of synthesis gas (carbon monoxide and hydrogen), the major cost factor in synthetic fuels manufacture, and the most important single research problem. Bureau research followed three major lines: (1) gasification of coal in place underground; (2) gasification of powdered coal in superheated steam containing oxygen; (3) gasification of powdered coal with oxygen and steam in a vortex reactor.

Petroleum and Natural Gas. Unprecedented peacetime requirements for oil stimulated Bureau research in the development of better methods of extracting petroleum from the ground. To help increase domestic oil reserves, the Bureau undertook a basic study of the surface forces in natural petroleum reservoirs. Similarly, the Bureau completed laboratory research on the recovery of oil from California sandstones, and conducted studies on metals that would resist corrosion in gas-condensate wells.

Helium. Reflecting a growing demand for helium in commercial, medical and industrial enterprises, the Bureau of Mines—exclusive producer of this lightweight, noninflammable gas—delivered more than 15,916,747 cubic feet, or 23.6 percent of the total production of 67,486,567 feet, for non-Federal uses. As a result of research carried on at the Bureau's Exell and Amarillo, Texas, plants, the purity of helium was increased to 99.8 percent—a significant development, since some types of helium-shielded arc welding cannot be done successfully with a less pure gas. Major objectives of Bureau research during the past year were the development of new and better techniques for using this valuable gas in welding and metallurgy, more efficient extraction methods, and expansion of the present use pattern. Peacetime uses for helium now include inflation of airships in private use, as a tracer gas in mapping underground petroleum reservoirs, in hospital operating rooms to eliminate explosion hazards, as well as the treatment and prevention of emphysema and in treating some respiratory diseases.

Explosives Testing and Research. Minimizing of hazards associated with the manufacture, storage, and use of explosives continued to be a major Bureau research goal, and Bureau investigators last year tested more than 1,600 permissible explosives and blasting devices, special types of explosives, detonators, and hazardous chemicals. In the course of the Bureau's basic explosives research program, new methods were discovered for measuring the rate of detonation of explosives and the temperature in detonation waves. A study of the explosibility of ammonium nitrate, which caused the Texas City, Tex., disaster, revealed that under certain conditions this material can be detonated by heat alone.

Safety and Health Activities. Striving to conserve life and property in the mines and plants of America's vital mineral industries, the Bureau of Mines last year intensified its safety education and coal-mine inspection activities. Two new training courses were conducted—one to instruct supervisory officials in the broad principles of coal-mine safety, and the other to familiarize coal-mine safety committeemen with established safety standards. Also continued were first-aid, mine-rescue, accident-prevention, and other established training.

As a result of Bureau studies of methods of preventing rock falls, a type of roof support which had proved effective in some metal mines was introduced into an increasing number of coal mines. In addition to making thousands of analyses of dust and mine air samples, the Bureau determined the explosibility of many industrial dusts and offered recommendations for reducing hazards. In recognition of the vital role played by the coal-mine inspection program in promoting health and safety in the domestic coal industry, the Eightieth Congress authorized the employment of additional inspectors, bringing the staff to 250. Nearly 4,700 coal-mine inspections were completed in all coal-mining sections of the country, and mine operators, mine workers' organization, and the public were informed of the results. Although the program was purely voluntary, thousands of inspectors' recommendations for reducing hazards were adopted. A substantial percentage of these recommendations dealt with ventilation, rock dusting, and the minimizing of fire and ignition hazards. Statistics on mine accidents gathered and analyzed by the Bureau reveal that in the fiscal year ending July 1, 1948, fewer men lost their lives for every million tons of coal produced last year than in any corresponding period in the Nation's history.

Anthracite Water Problem. To help preserve valuable fuel reserves in the anthracite region of eastern Pennsylvania, the Bureau during the past year conducted investigations to determine the feasibility of Federal participation in construction projects or pumping operations to prevent flooding of mine workings. Additional information was also gathered on damage to property by subsidence owing to lack of backfilling in active mine workings, and the effectiveness of barrier pillars and mine dams in present workings in resisting the pressure of impounded water.

Economic and Mineral Industries. The economic and statistical services of the Bureau of Mines last year supplied basic information on foreign and domestic mineral resources to the Government, mineral industries and the public. Hundreds of periodic reports dealing with all phases of the minerals industries were issued and injury statistics were revised to meet current requirements.

Public Reports. Because of a continuing heavy demand for information on subjects associated with the mineral industries, the volume of publications released by the Bureau during 1948 remained high. The results of Bureau research were made available to all interested parties in many reports and papers published during the past year. Responding to requests from technical organizations, Bureau staff members addressed technical and scientific meetings and contributed to the technical and trade press. Individual chapters of the *Minerals Yearbook*—long accepted as an authoritative text on current developments in the minerals industries—were issued as preprints on completion. A nationwide audience of about 12 million persons saw films from the Bureau's free loan library of educational motion pictures. Sponsored by private in-

dustry and produced under the supervision of the Bureau, the films depict the uses and methods of producing various mineral commodities.

MINNESOTA. A west north central State. Area: 84,286 sq. mi. Population: (July 1, 1948) 2,940,000, compared with (1940 census) 2,792,300. Chief cities: Saint Paul (capital), 287,736 inhabitants in 1940; Minneapolis, 492,370. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$178,212,000; total expenditure, \$163,119,000.

Elections. Truman's majority of about 100,000 over Dewey, Wallace, and others gave the 11 electoral votes to the Democratic nominee. Hubert H. Humphrey, Democratic-Farmer-Labor candidate, beat incumbent Joseph Ball, Republican, in the Senatorial race, while Republicans won only 5 of the 9 House seats for a loss of 3. Most contests for State office were won by Republicans, including: incumbent Governor Luther W. Youngdahl who was reelected over Charles Halstead; C. Elmer Anderson—Lieutenant Governor; J. A. A. Burnquist—Attorney General; Mike Holm—Secretary of State; Julius A. Schmahl—Treasurer. The voters authorized a veterans' bonus.

Officers, 1948. Governor, Luther W. Youngdahl; Lieut. Governor, C. Elmer Anderson; Secretary of State, Mike Holm; Attorney General, J. A. A. Burnquist; State Treasurer, Julius A. Schmahl; State Auditor, Stafford King.

MINT, Bureau of the. A Bureau of the U.S. Department of the Treasury which directs the coinage of money and supervises the activities of the three Mints (Philadelphia, Denver, and San Francisco), the two Assay Offices (New York and Seattle), the gold Bullion Depository at Fort Knox, Kv., and the silver Bullion Depository at West Point, New York. Director: Mrs. Nellie Tayloe Ross.

MISSISSIPPI. An east south central State. Area: 46,865 sq. mi. Population: (July 1, 1948) 2,121,000, compared with (1940 census) 2,183,796. Chief city: Jackson (capital), 62,107 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$100,148,000; total expenditure, \$93,854,000.

Legislation. The Legislature met in regular session on January 6 and adjourned April 14. Biennial appropriations exceeded, for the first time, \$100 million and included \$35 million for common schools, \$8 million for institutional improvements, \$7.5 million for aid to counties and cities, and \$5 million for hospital construction. Special aid was given to Gulf Coast communities devastated by the September, 1947, hurricane. A new 6 percent natural gas severance tax was one of the few tax changes.

An outstanding event was the adoption of a workmen's compensation law with compulsory coverage, second-injury fund, unlimited medical care, and double compensation for illegally-employed minors. Old-age assistance was increased and a rehabilitation program for the State penitentiary adopted.

The interstate parole and probation and interstate oil and gas compacts were adopted. The State oil and gas board was reorganized and a State aeronautics department created with power to stim-

ulate aviation development and to review all local airport plans submitted under the Federal Airport Act.

Elections. Thurmond won a commanding popular majority over Truman, Dewey, Wallace, and other nominees and won the 9 electoral votes. Senator James O. Eastland, Democrat, was reelected without opposition, and the 7 House seats remained Democratic. There were no contests for State office.

Officers, 1948. Governor, Fielding L. Wright; Lieut. Governor, Sam Lumpkin; Secretary of State, Heber A. Ladner; Attorney General, Greek L. Rice; State Treasurer, Robert W. May; State Auditor, Carl N. Craig.

MISSOURI. A west north central State. Area: 69,420 sq. mi. Population: (July 1, 1948) 3,947,000, compared with (1940 census) 3,784,664. Chief cities: Jefferson City (capital), 24,268 inhabitants in 1940; St. Louis, 816,048. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$191,335,000; total expenditure, \$175,149,000.

Legislation. The session of the General Assembly which convened January 7 was a continuation of that which began in January, 1947. Following prolonged recess, it adjourned December 1.

Tax measures included a 2 percent use tax on vehicles purchased outside the State, and a two-year authorization to St. Louis to levy a payroll tax not to exceed one-half of 1 percent on individual earnings and corporation net profits. Control and operation of the St. Louis Sanitarium and the Training School for Feeble-Minded were transferred to the State to lower costs to the city. Also passed were laws permitting border cities to establish airports in neighboring States, and to create a joint Illinois-Missouri planning commission to foster development of the St. Louis Metropolitan Area.

New school laws provide liberal aid for educating physically-handicapped children, and stimulate reorganization and consolidation of school districts. State equalization school aid was made conditional upon achievement of local school taxing minimums. Restrictions were placed on payment of unemployment compensation to workers who quit without good cause or are fired for misconduct, while workmen's compensation benefits were considerably liberalized.

New insurance regulatory laws were passed and several uniform laws adopted. Constitutional amendments to grant a veterans' bonus and to increase the gasoline gallonage tax from 2 to 3½ cents were initiated but defeated by the voters in November.

Elections. Truman carried his home State over Dewey and Wallace by a majority of 250,000 and won the 15 electoral votes. In House races, Democrats won 12 of the 13 seats, for a gain of 8. Forrest Smith, Democrat, won the governorship over Republican Murray Thompson, and Democrats also won all other major State offices, including: Lieutenant Governor—James T. Blair, Jr.; Secretary of State—Walter H. Toberman; Attorney General—J. E. Taylor; Treasurer—M. E. Morris; Auditor—W. H. Holmes.

Officers, 1948. Governor, Phil M. Donnelly; Lieut. Governor, Walter N. Davis; Secretary of State, Wilson Bell; Attorney General, J. E. Taylor; State Treasurer, Robert W. Winn; State Auditor, Forrest Smith.

MOLYBDENUM. The demand for molybdenum products, principally for steel-making purposes, increased in 1948. Shipments of ferromolybdenum, molybdic oxide, molybdenum salts and metal totaled 17,082,500 lb. of contained molybdenum in the first nine months, compared with 20,744,900 lb. in the year 1947, a postwar high. Production of concentrates was also increased during the year and, despite heavier consumption, stocks at mines and converting plants were built up by 2.3 million lb. during the period, to 25,988,000 lb. of contained molybdenum. Production of concentrates to the end of September totaled 22,074,200 lb. molybdenum content (year 1947: 27,047,000 lb.).

Utah, in which molybdenum is recovered as a by-product from copper mining, was the leading producing State in the first half of the year, but Colorado recovered its primary position in the last half. New Mexico, California, Arizona, and Nevada also produced molybdenum. There were no imports of concentrates or molybdenum products in 1948. Exports of concentrates amounted to 1,725,762 lb. molybdenum content during the nine months, about 60 percent to the United Kingdom (year 1947: 2,989,251 lb.). The Climax Molybdenum Company, a principal producer, announced a price increase in its products averaging 18 percent effective Jan. 1, 1949.

—JOHN ANTHONY

MONACO. A principality on the Mediterranean, surrounded on its land sides by the French department of Alpes-Maritimes. Area: 370 acres. Population: (1946) 19,242. Chief towns: Monaco (capital), La Condamine, Monte Carlo. The main sources of revenue are derived from the tourist traffic and the gambling concession at Monte Carlo. Budget: (1946) expenditure was estimated at 248,929,790 francs. A ministry assisted by a council of state administers the country under the authority of the Prince. Legislative power rests with the Prince and the national council of 12 members elected by universal suffrage for a four-year term. Ruler: Prince Louis II (succeeded June 26, 1922).

MONGOLIAN PEOPLE'S REPUBLIC (Outer Mongolia). A republic, formally established on Jan. 5, 1946. It is bounded by the U.S.S.R. on the north, Sinkiang on the west, and China on the south and east. Area: 580,158 square miles. Population: 900,000, including 100,000 Russians and 50,000 Chinese. Capital: Ulan Bator, 100,000 inhabitants. Buddhist Lamaism is the chief form of religion.

Production, etc. Most of the country is pastoral. Some areas are suitable for the production of wheat, millet, and rye. Livestock included 10,600,000 sheep, 1,500,000 oxen, 270,000 camels, and 1,340,000 horses. All land, natural resources, factories, mines, and public utilities have been nationalized. Caravan route is the principle means of communication.

Government. According to the constitution the highest power is vested in a parliament (the *Great Huruldan*), elected by universal suffrage. From its members 30 are elected to comprise the executive committee (*Little Huruldan*). The committee elects 5 of its members to form a board which administers state affairs.

MONTANA. A mountain State. Area: 146,997 sq. mi. Population: (July 1, 1948): 511,000, compared with (1940 census) 559,456. Chief cities: Helena (capital), 15,056 inhabitants in 1940; Butte, 37,081. See AGRICULTURE, EDUCATION,

MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$32,615,000; total expenditure, \$28,471,000.

Elections. Truman's majority of about 15,000 over Dewey and Wallace won him the 4 electoral votes. In races for Congress, incumbent Democrat James E. Murray won the Senatorial contest, and the 2 House seats remain divided among Democrats and Republicans. John W. Bonner, Democrat, defeated incumbent Sam C. Ford in the gubernatorial race. Democrats won all other State-wide offices: Lieutenant Governor—Paul Cannon; Secretary of State—Sam C. Mitchell; Attorney General—Arnold H. Olsen; Treasurer—Neil Fisher; Auditor—John J. Holmes; Railroad Commissioner—Austin B. Middleton, Superintendent of Public Instruction—Mary M. Condon.

Officers, 1948. Governor, Sam C. Ford; Lieut. Governor, Ernest T. Eaton; Secretary of State, Sam W. Mitchell; Attorney General, R. V. Bottomly; State Treasurer, George T. Porter; State Auditor, John J. Holmes.

MOROCCO, French. A French protectorate comprising the major portion of the Sherifian empire in northwest Africa. Under the French Constitution of 1946, the protectorate forms part of the French Union and is classified as an "associated state." Area: 153,870 square miles. Total population (1947 census): 8,499,997, of whom 324,997 were non-Moroccan (chiefly French). Rabat (1947 pop. 160,800) is the administrative capital. Marrakesh (pop. 237,800), Fez (pop. 200,900), and Meknes (pop. 159,600), are the traditional Moorish capitals. Casablanca (pop. 550,800) is the principal seaport.

Religion and Education. The natives are Moslem except for some 195,000 Jews. The majority speak Moorish-Arabic, but in the back country several Berber dialects prevail. French is the official language. Illiteracy is general and few children get more than a rudimentary education. Koranic schools are numerous and the Kairouan University is highly regarded throughout the Islamic world. In 1947 a total of 132,750 Moslems, 47,750 Europeans, and 19,245 Jewish pupils attended schools. The Institut des Hautes Etudes Marocaines at Rabat had 2,068 students in 1945-46. Jewish instruction is given in 48 schools.

Production. Agriculture is the leading industry with a total of about 7.5 million acres under cultivation. The principal crops are cereals, beans and other legumes, olives, fruits and almonds, and wine. Chief cereal crops (1946) in metric quintals (a quintal = 220.4 lb.) were: barley 8,531,000, wheat 7,518,400, maize 2,182,900. Olive oil yielded 18,000 tons in the 1946-47 season and wine 7.9 million gallons in 1945. Livestock (1946): 6,031,000 sheep, 3,892,000 goats, 1,394,000 cattle, 540,000 asses.

Phosphate, the principal mineral, is exploited under a state monopoly. In 1947 the mineral output (in metric tons) was: phosphate 2,961,000; coal 268,800; cement 218,400; manganese 22,100 (1946); iron ore 153,600 (approx. metal content 50 percent). Production of electric power (1947) totaled 301.2 million kw-hr. In 1946, a total of 50,863 tons of fish were caught.

Foreign Trade. In 1947 imports were valued at 33,312 million francs; exports at 18,312 million francs. France accounted for the greater part of both exports and imports. In 1946, 3,828 vessels of 6,909,625 tons entered and cleared the ports.

Finance. Budget estimates for 1948 place revenue at 22,482,851,000 francs; expenditure at 22,482,783,000 francs. On Jan. 1, 1947, the outstanding state loans amounted to 7,486,653,000 francs.

Government. The reigning Sultan, Sidi Mohammed, belongs to the Alawite dynasty. In theory his power is practically absolute, but in reality its exercise is largely in the hands of France, represented by the Resident-General. The Sultan is assisted by a Makhzen, or cabinet, but this also is under the control of the protecting authorities. Local government is largely in the hands of native officials or chieftains, supervised by French controllers. The hinterland, in the Atlas Mountains and beyond, has been "pacified" only in recent years and is under the effective control of the military. There are French courts in which cases involving foreigners are tried, while native cases are dealt with in religious courts or by local pashas and caids. Only the United States preserves its special capitulatory status.

Events, 1948. The growing inclination of the Sultan Sidi Mohammed to align himself with the nationalist movement, already evidenced on the occasion of his 1947 speech at Tangier (see *YEAR BOOK, Events of 1947*), continued to manifest itself, 1947. On December 3, he addressed a letter to President Vincent Auriol in which he registered various complaints. The exact nature of this communication was the subject of considerable dispute when on January 9 its alleged contents were revealed by Moroccan sources in Paris.

According to these nationalist circles, the Sultan cited a long series of grievances, demanded the recall of the Resident-General, Gen. Alphonse-Pierre Juin, and spoke of Moroccan independence and the abrogation of the protectorate treaty of 1912. French spokesmen, while refusing to give the exact text of the letter, declared that it in reality dealt only with administrative matters and did not take up broader issues. On January 12 it was learned that the French government had made "a technical answer," taking up point by point the matters raised by the Sultan. On January 23 Gen. Juin announced the texts of several reforms he intended to make in the electoral, administrative, judicial, educational, labor, and press set-up in the protectorate. Early in March a short strike of railway workers in Morocco was settled when Juin granted pay increases. He staved off a threatened walk-out by public service workers with similar concessions.

In any event, it was quite clear that His Sherifian Majesty did not relish the manner in which Gen. Juin administered the protectorate with a firm hand and prevented him from attending nationalist meetings and demonstrations. There were those who said that the Sultan's desire to identify himself with the independence party was a spirit of rivalry with the old Riffian leader, Abd-el-Krim, who was organizing the North African liberation movement from Cairo. Despite the Sultan's highly uncooperative attitude toward Gen. Juin, the Paris government showed no signs of recalling him. Early in April he was made commander-in-chief in French North Africa, while continuing to hold his post in Morocco.

According to a special correspondence appearing in *The Christian Science Monitor* on March 30, President Auriol replied to the Sultan only after a three-months delay and then very perfunctorily, thereby annoying His Majesty even further. The net result was said to be that the latter became determined to persuade the Arab League, or one of its members, to bring the Moroccan question be-

fore the United Nations Security Council on the grounds that the French had broken their promise, given in the 1912 Protectorate Treaty, to observe his sovereignty.

Late in March there assembled in Tangier several hundred representatives of the nationalist or independence movements of North Africa to discuss their situation and make plans for the future. The Moroccan delegates took the lead in arguing in favor of taking a positive stand in the event of a third World War in order that they might use such an opportunity to regain their independence (see *TANGIER*). This program did not, however, mean orienting the North African liberation movement toward Moscow (see *ALGERIA*).

One of the reflexes of the struggle in Palestine was the exacerbation of Arab-Jewish feelings in Morocco. For centuries Jewish communities had existed there, many of their inhabitants being the descendants of Jews expelled from Spain under Ferdinand and Isabella. The Jews were forbidden by law to own land and to engage in any except a few restricted trades. They were also for the most part obliged to live in a designated section of town known as the *mellah*, though in recent years some of the more prosperous Jews lived outside these quarters. The Moslems looked down on their Jewish compatriots but found it possible and desirable to live with them in mutual tolerance. At the time of World War II this situation was disturbed by the entry of European Jewish refugees and by the Zionist "menace" in Palestine. As a result, the Moorish nationalists in Morocco became increasingly anti-Jewish, and under the surface a seething mass of discontent merely awaited a spark to set off a conflagration.

Such an incident occurred at Oujda and Djerada, in northeastern Morocco, on June 8, when an argument between a Jew and a Moorish cobbler over a pair of shoes led to disorders in which some 40 Jews were killed. Reports indicated that the Palestine issue had entered strongly into the motivation for the argument and subsequent riots.

When the Jewish victims were buried on the 11th, French and Moslem authorities were present. The local pasha, while attending prayers for the deceased in the great mosque of Oujda, was attacked by a fanatical nationalist and gravely injured with stabs in the neck. Security measures were taken immediately and applied shortly thereafter to all of Morocco. The Sultan sent his Minister of Justice to Oujda, where Gen. Juin also flew to institute repressive measures.

The Sultan in particular was said to have been very angry at the turn of events. Only shortly before the fatal incidents he had issued a strong proclamation enjoining that order be preserved by both sides and recommending that no money be collected in Morocco "for a foreign country." After the Oujda and Djerada incidents, representatives of the Moslem and Jewish populations were called separately before the pashas' courts to hear this appeal read to them.

In October a new through service by train and boat was inaugurated between France and Morocco. A weekend train, the Morocco Express, left Paris early Friday; after a change of cars at the Spanish border, and a steamer crossing from Algeciras to Tangier, the rail journey was resumed; Casablanca was reached late Sunday night.

In mid-November the authorities in the Spanish Zone of Morocco instituted a virtual blockade of Tangier by preventing, under one pretext or another, the shipment of food from the French Zone to the International Zone. The administration of

the latter circumvented these tactics by importing food from Casablanca by sea (see TANGIER).

For further details concerning political affairs and economic conditions in French North Africa as a whole, see the article on ALGERIA.

—ROBERT GALE WOOLBERT

MOROCCO, Spanish. The extreme northern and southwestern portions of the Sherifian Empire. It does not include the five places of Spanish sovereignty, or *presidios*, along the north coast, such as Ceuta and Melilla. Area: 18,009 square miles. Population (1948 est.): 1,082,009, all classed as Moslems except 63,100 Europeans (mostly Spanish) and 14,700 Jews. The principal towns are Tetuán (pop. 73,115), Larache, and Alcazarquivir.

Education. The government operates schools for natives in the principal centers, and two higher institutes in native culture have been set up at Tetuán. The Jewish community maintains schools in Tetuán and Larache. In general most children, especially girls, get little if any formal instruction.

Production and Trade. Much good farming land is not cultivated, but efforts are being made to step up agricultural production. Primitive stock raising is carried on extensively. Iron ore is mined in the eastern part of the country and some 1,500,000 tons yearly are exported through Medilla. Lead, manganese ore, and antimony also are exported. Foreign trade (1947): imports 526,228,484 pesetas; exports 168,174,275 pesetas. Chief exports are cattle, eggs, and iron ore. Flour, sugar, tea, and wine are the main imports. Most of the trade is with Spain.

Transportation. There are less than 200 miles of railway, the most important line being that from Fez to Tangier. Good roads total 540 miles. There is telephone service between Tangier and Madrid and between Tangier and Lisbon. There is also an official trunk line between the French and Spanish zones.

Government. The budget for 1948 was balanced at 214,723,715 pesetas. The Sultan's deputy in the two Spanish Zones of the Protectorate is the Khalifa, nominally chosen by and responsible to him. In reality the Spanish High Commissioner at Tetuán exercises full powers, subject to supervision from Madrid. British and American citizens are still subject to their own consular courts.

Events, 1948. In general, the Franco regime has sought to appease the Moors in its zone of Morocco without acceding to the more drastic demands of the nationalists. In the long run, of course, the Moroccans' aspirations for independence were bound to collide with Spain's determination to hang on to her North African possessions.

An instance of this inevitable conflict occurred early in February. The Spanish authorities had forbidden two nationalist leaders to enter their zone from Tangier. As a result, a general strike was declared in Tetuán, the chief city and capital, and on February 8 an attempt by demonstrators to deliver a protest to the Pasha's house was resisted by troops with force. Several persons were killed and wounded in the mêlée, martial law was proclaimed, and fifty or more natives were arrested. Naturally, the Spanish government was concerned to keep this outbreak from spreading, particularly as at that moment an Argentine military mission was visiting the High Commissioner for Spanish Morocco, Gen. José Varela.

No doubt as a consequence of the growing nationalist agitation, Gen. Varela established in mid-February the office of Grand Vizier, who would assume responsibility for the conduct of native

affairs, and would be assisted by Moorish judges who would see that justice was done among the Moslem population.

Another facet of Franco's Arab policy was his obviously anti-Zionist policy in the Middle East. His motives here were far from altruistic, for he wanted among other things the support of the Arab League states in the United Nations. A *New York Times* despatch from Cairo, dated August 26, reported that the Spanish Minister to Egypt had called on Abdul Rahman Azzam Pasha, Secretary-General of the Arab League, to inquire about obtaining such support at the forthcoming League Assembly. Azzam purportedly replied that he would be glad to recommend such a course provided Spain modified the severity of its policies in Morocco, allowed Moroccan exiles to return home, and released political prisoners in the Spanish Zone.

One of the leaders of the Nationalist movement in Spanish Morocco, Abd-el-Khaleq Torraiz, an organizer of the North African Liberation Committee set up in Cairo during 1947 by the former rebel chieftain Abd-el-Krim, returned from Egypt to report at a conference of North African independence delegates meeting at Tangier late in March (see TANGIER).

In November the authorities in the Spanish Zone in effect placed a blockade on foodstuffs passing from French Morocco to Tangier in order, it was surmised, to force the International Zone within the political orbit of Spain (see TANGIER).

—ROBERT GALE WOOLBERT

MOTION PICTURES. The industry of the motion picture struggled, muddled, and puzzled through the difficult year of 1948 and into 1949 with prospect of a continuing period of adjustment, internal and external, and the facing of some revolutionary developments.

The art of the screen did well with the customers in 1948. The estimate from semiofficial sources, including informed guesses from Washington, indicated that the year's box office grosses, the money paid by the buyers of seats, would be only about 2½ percent under those for 1947 with the total for the whole country \$1,046 million.

Seven pictures of the period grossed more than \$4 million each in film rental paid by the theaters, the only obtainable and reliable index to the success of individual productions, the commonly released figures of the industry being as elastic as they are. A list of the important productions follows:

Unconquered—Paramount. Produced and directed by Cecil B. DeMille. The film is in Technicolor. The cast includes Gary Cooper, starred in many DeMille pictures; Paulette Goddard; Howard DeSilva; and Boris Karloff. It is broadly in the pattern of the DeMille historical spectacles. The story is laid in 1763 in the invasion and winning of the great frontier empire west of the Appalachians. It is rich with the adventure and color of the beglamoured rugged colonial period. The final accounting may show it to have been the top-grossing box-office picture of the year.

Green Dolphin Street—Metro-Goldwyn-Mayer. Produced by Carey Wilson and directed by Victor Saville. The cast includes Lana Turner, Van Heflin, Donna Reed, and Richard Hart. It is utterly and flamboyantly "movie" as the story runs around the world, a four-angled plot of loves, kept in motion on sea-tossed schooners. It involves an earthquake in New Zealand and the excitement of capture by natives.

Cass Timberlane—M-G-M. Directed by George Sidney, from the novel of the same title by Sinclair Lewis. In the cast are Spencer Tracy, Lana Turner, and Zachary Scott. The story has the customary sociological approach, garbed in Mr. Lewis' fashion. It is strictly adult in its address to the issues, contrasts, and problems of life on "both sides of the tracks," with involvement of divorce, temptation, fidelity, and orders of justice. This is achieved however within the proper frame of family entertainment.

The Bachelor and the Bobby Soxer—RKO-Radio. Dore Schary producer and Irving Weis director. Sheer and light comedy carried into the ridiculous as a vehicle to exploit the personalities of Cary Grant, Myrna Loy, Shirley Temple, and Rudy Vallee.

Mother Wore Tights—Twentieth Century-Fox. Produced by Lamar Trotti with Walter Lang as director. The cast includes Betty Grable, Dan Dailey, and Mona Freeman. There is more than a touch of backstage and whitewashed burlesque, and considerable song and dance.

Road to Rio—Paramount. Daniel Dare producer and Norman Z. McLeod director. The cast includes Bing Crosby, Bob Hope, and Dorothy Lamour. It is a galloping story of a vaudeville team in mad escape to Rio after setting a carnival on fire, involvement with gangsters, complications with mesmerism, and assorted macabre adventures. All in fun.

The Treasure of Sierra Madre—Warner Brothers. Produced by Henry Blanke and directed by John Huston, from a novel by B. Traven. The cast includes Walter Huston, Humphrey Bogart, and Tim Holt. The background is that of prospecting for gold in wildest Mexico, with a rugged and all but womanless cast, action in the rough, and raw realism. While rated fourth among "the ten best" by the critics of the nation, this picture was considered the best English-speaking picture of 1948 by the New York Film Critics at their annual session of judgment.

Hamlet—Universal-International release. Two Cities Films, for J. Arthur Rank. Produced, directed, and enacted by Laurence Olivier, under the auspices of Filipo Del Giudice, through the year under promotional road-show type and special selected audience engagements and the aegis of the Theatre Guild of New York, institution of the stage, not screen. Toplofty critics complained of invasion of the classic status by too much cinema, and others, clinging rather to the motion-picture tradition, held that *Hamlet* on film was still not motion picture. *Hamlet* thus became a significant manifestation in the exploration of audiences and the stratification and classification of patronage—a long and tediously slow process of the years.

Extravagant box office figures were published by euphemists. The indications were that years would pass before the production returned a profit against its true costs. The picture was in fact made in an earlier period of the J. Arthur Rank enterprises, when he was seeking to make an imposing impression on the world market, especially America. That phase had passed, in the course of evolving international relations, before *Hamlet* reached the American screen.

The divergence between the opinions and tastes of the majority of the customers, and those of the critics, reviewers and commentators of the lay press and radio, is pointed up by the report made by *Film Daily*, New York journal of the industry, addressed to 500 persons. Their selection of "the ten best of 1948," which does not include any of

the top-grossing 7 pictures of the year, follows:

Gentleman's Agreement—Twentieth Century-Fox. Produced by Darryl Zanuck, directed by Elia Kazan, from the novel by Laura Z. Hobson. The cast includes Gregory Peck, Dorothy McGuire, John Garfield, and Celeste Holm. The basic theme is anti-semitism.

Johnny Belinda—Warner Brothers. Produced by Jerry Wald and directed by Jean Negulesco. From the stage play by Elmer Harris. In the cast are Jane Wyman, Lew Ayres, Charles Bickford, and Agnes Moorehead. Melodrama with tragic nuances. Marked by scenic beauty. Not for children.

I Remember Mama—RKO-Radio. Produced by Harriet Parsons and directed by George Stevens. From *Mama's Bank Account*, a stage play by John van Druten. In the cast are Irene Dunne, Barbara Bel Geddes, Oscar Homolka, and Philip Dorn. A story of simple family life with its adventures, mishaps, and joys.

The Naked City—Universal-International. A Mark Hellinger production, directed by Jules Dassin. In the cast are Barry Fitzgerald, Howard Duff, Don Taylor, and Dorothy Hart. This is something between documentary and "movie" in its effective style. It pertains to the operations of the New York Police Department in the solution of a society decorator-beautiful model murder, jewel robberies, and what happens when thieves fall out. Well accepted by critics and audiences alike.

Sitting Pretty—Twentieth Century-Fox. Produced by Samuel G. Engel; Walter Lang director. From a screen play by F. Hugh Herbert. The cast includes Robert Young, Maureen O'Hara, and Clifton Webb. A domestic comedy, done with a broad brush as indicated by the casting of the whimsical Webb as a baby-sitter.

State of the Union—M-G-M, from Liberty. Directed by Frank Capra, from the Pulitzer Prize play by Howard Lindsay and Russel Crouse. The cast includes Spencer Tracy, Katherine Hepburn, and Angela Lansbury. A tale of newspapering and political chicanery, including White House ambitions. It is light-footed and swift.

Call Northside 777—Twentieth Century-Fox. Produced by Otto Lang and directed by Henry Hathaway. The cast includes James Stewart, Richard Conte, Kasia Orazewski, and Lee J. Cobb. A quasi-documentary based on the stories of a Chicago murder and miscarriage of justice recorded for the *Chicago Times* by James P. McGuire, reporter. Vital with the triumph of a believing mother.

The Bishop's Wife—RKO-Radio, from Samuel Goldwyn. Directed by Henry Koster. The cast includes Cary Grant, Loretta Young, David Niven, and Monty Woolley. This is a fantasy comedy, with Grant in the role of a heavenly messenger. Romance reigns and happiness triumphs in the end.

Other Pictures. Among the other productions of the year, not previously described, and variously of note, were:

The Search—M-G-M. Directed by Fred Zinnemann, from an original screen play by Richard Schweizer. This is the story of a war-waif victim of Europe's aftermath. Pictured in Germany and Switzerland. In the cast are Montgomery Clift, Jamila Novotna, and the juvenile star Ivan Jandl. As telling and poignant as the theme suggests. A piece for feeling.

Louisiana Story—Another poetic documentary film from Robert Flaherty, who came to fame with his *Nanook of the North*, shown years before and recently reissued. Like *Nanook* this picture was un-

derwritten, it is said, by influential background interest. In the case of *Nanook* it was a fur company, in the instance of *Louisiana*, it was anonymously an oil company concerned with exploiting the bayou country. The telling covers the experience of a boy, one Joseph Boudreaux, a native "cajun." It is a cinema collector's piece, with an appeal of pensive beauty.

The Red Shoes—Eagle-Lion, from J. Arthur Rank. Written, directed, and produced by Michael Powell and Emeric Pressburger. It pertains to the world of the ballet. The cast includes Anton Walbrook, Marius Goring, Robert Helpmann, and Leonida Massine. It is rich in Technicolor, smooth in its flow, and laden with an over-all rhythm.

The Snake Pit—Twentieth Century-Fox. Under the Darryl Zanuck administration. Produced by Anatole Litvak and Robert Bassler and directed by Mr. Litvak from a novel by Mary Jane Ward. The cast includes Olivia De Havilland, Leo Genn, and Mark Stevens. The trying story is a case history from a mental hospital; bitter, realistic, tense, and shocking. Some critics, while admiring the performance, questioned its fitness as public entertainment.

Paisan—Produced and directed in Italy by Roberto Rossellini, who collaborated on the screen play. In the cast are Carmalia Sazie and Gar Moore. A pungent, sharp piece about war-torn Italy. Held high in critical esteem. Sparsely distributed.

Symphonie Pastorale—Pathé Cinema, in France. From a story by André Gide, and carrying thereby a special degree of literary attention. Produced by M. Gide and directed by Jean Delannoy. The cast includes Michele Morgan and Pierre Blanchard. It is French tragedy in the ironic Gide manner.

The Fallen Idol—Selznick Releasing Organization, from Sir Alexander Korda. Directed by Carol Reed, of fame since *Odd Man Out* and other British works. In the cast are Sir Ralph Richardson, Michele Morgan, and Bobby Henrey. It is a child study of appeal and poignant penetration. Greeted as the film sensation of the year in Britain by the Film Tribunal of the London *Daily Express*, a distinguished committee of authorities in art, drama, and literature. At year's-end it was yet to reach American audiences.

Joan of Arc—RKO-Radio, from Walter Wanger's *Sierra*. Directed by the late Victor Fleming. From a story of complex literary and histrionic origins, including counsel from imported Jesuit authority with access to Vatican archives. At year's-end it was playing concurrently in two theaters in New York, at capacity. The title role, overshadowing all others, was held by Ingrid Bergman. The picture, promising to occupy a dominant position through the year to come, was primarily a spectacle, developed in the feeling and manner of Mr. Fleming who, it is to be remembered, so ably brought story and spectacle together in the direction of the classic *Cone With the Wind*. Critical attention was in general somewhat less than grand acclaim, and there was, among the critics, an impression that there was more picture than dramatic feeling. The public response was in an unreasoned fashion to "something big." The picture's negative cost was \$4,600,000, likely the highest budget of 1948, and likely the highest for years to come. Showmen considered it interesting speculation.

Film Awards. The New York Film Critics, a body of considerable national and international weight, after much travail decided that *The Treasure of Sierra Madre* was the best English-speaking picture of 1948. This was achieved after much

consideration of *Hamlet*. These critics were unanimous in the opinion that Olivia De Havilland did the best female acting of the year in *The Snake Pit*. They gave an award to the Italian *Paisan* as the best foreign-language picture of the year.

Out in the West, the San Francisco Drama Critics Council, the only organized group of theater critics in the United States outside New York, selected *Hamlet* as the best English-language film of 1948, and Jean Cocteau's *Beauty and the Beast* as the best of the foreign offerings. Somewhat gratuitously they decided that *Mourning Becomes Electra*, from the O'Neill play, was the year's worst. That one was made to please the cultural-society program of an executive's wife. It had not been mentioned for months.

The National Board of Review of Motion Pictures annual survey, which, despite the title, is to be taken as another New York metropolitan group, with 300 film reviewers making selections, specified as "on the basis of entertainment": (1) *Hamlet*; (2) *The Search*; (3) *Sitting Pretty*; (4) *Gentlemen's Agreement*; (5) *Johnny Belinda*; (6) *Joan of Arc*; (7) *I Remember Mama*; (8) *The Bishop's Wife*; (9) *The Red Shoes*; and (10) *The Snake Pit*.

The Exceptional Films Committee of the National Board, a sort of recognition that there are at least two levels of public, decided that the best film of the year was *Paisan*, from Italy.

Events, 1948. In the interrogation of the motion-picture exhibitors of the United States and Canada, seeking from some 16,000 theater operators report of their year's experience in 1948, *Motion Picture Herald*, New York and international journal of the industry, reported the "top ten money makers" as: Bing Crosby (fifth time topmost), Betty Grable, Abbott & Costello, Cary Cooper, Bob Hope, Humphrey Bogart, Clark Gable, Cary Grant, Spencer Tracy, and Ingrid Bergman.

In the same survey the topmost money-making stars of the outdoor Western drama were again Roy Rogers and Gene Autry.

The decade-long anti-trust suit entitled *The United States of America vs. Paramount Pictures, Inc. et al.*—including as defendants the "big five" majors, the concerns engaged in the three branches of production, distribution, and exhibition, and the "little three," the producer-distributors without theater affiliation—was drawing to an anti-climactic close with a series of consent decrees and varying proposals for them. It was the culmination of a movement for control and disintegration of the motion-picture monopoly starting with the Roosevelt Administration and initiated with the devices of the short-lived "Blue Eagle" code of the National Recovery Administration.

Television, whether potential friend or menace, was rising in importance. As of December 1, it was officially calculated that there were 650,000 television sets in homes and that soon there would be a million. There was promise of a 1½ million more this year, in homes. There was evidence of slight panic on the margins, among producers, of uncertain hold on the motion picture's established channels, to rush into television picture production. Meanwhile the Hollywood talent pool, which had so valiantly and so ineffectively sought to protect itself against radio invasion years ago, was again seeking to hold out against television. The end would be inescapably the sort of adjustment which came with radio. The theater, in the opinion of this writer, would continue to be "some place to go," and the people are "goers-out."

In the process of stratification of audiences there

arose conspicuously the Drive-In theater, the establishment where automobile customers could without leaving their cars see a screen performance. The development was sweeping the land in 1948, especially in climatically favoured regions. At the turn of the year there were about 800 such theaters, either operating or under construction. They constituted a remarkable development, involving millions. They also brought problems and rumblings of wide criticism and promise of scandal about "back seats," and conduct therein. There was promise that this would be the next big uproar about the morals of the movies, despite the fact that it had nothing to do with the screen.

More significantly than was recognized in print, the Eastman Kodak Company quietly announced a new non-inflammable film stock of a quality in performance equal to the old standard nitrocellulose stock, which is to be increasingly available to the industry.

—TERRY RAMSAYE

MOTORBOATING. Honors in power-boat racing were more or less divided as daredevil drivers continued their never-ending quest for new records. Danny Foster repeated his 1947 triumph in Gold Cup racing at Detroit when he piloted *Miss Great Lakes*, owned by Albin Fallon, to victory on a raging Detroit River in August. Guy Lombardo, the band-leader, who was another outstanding man all season, had the misfortune of wrecking his *Tempo VI* and breaking an arm in attempting to avoid a collision.

Laurels in the President's Cup regatta on the Potomac went to the Arena brothers, Dan and Gene, who won with *Such Crust*, owned by Jack Schafer of Detroit. Joe Van Blerck, Jr., of Freeport, L.I., scored a surprise by amassing 700 points to capture the national sweepstakes on the North Shrewsbury at Red Bank, N.J. Van Blerck's 225-cubic inch *Aljo V* took first over Lombardo's *Tempo VI*, which this time was dogged by starting and battery trouble.

A record field of 181 started in the 136-mile Hudson marathon from Albany to New York, the winner being John R. Whitehouse of Springfield, Mass. Bill Cantrell of Louisville, Ky., annexed the 28-mile race around Manhattan, his craft *So Long* finishing six minutes ahead of Van Blerck's defending champion *Aljo V*. —THOMAS V. HANEY

MOTOR VEHICLES. United States automotive plants in 1948, on the basis of preliminary figures, produced 5,282,000 cars, trucks and buses—the second year in history that total production exceeded five million vehicles.

In 1929 an all-time high of 5,358,420 motor vehicles was reached. The record of 1948 was achieved despite limited supplies and materials—principally steel—that restricted output throughout the year.

Total production for 1948, however, was approximately 10 percent greater than the 4,797,820 units built in 1947.

Although still unable to produce near capacity, the industry nevertheless established a number of new and significant records in 1948. Employment in automotive plants averaged a new high of 978,000 persons—a gain of 36,000 over 1947, 324,000 over 1941, and 101,000 over the war peak of 1944. The industry's 780,000 hourly rated employees earned about \$2,700 million for the year. Payrolls were 13 percent above 1947 and 127 percent over 1941. The year's output of about 3,911,000 passenger cars was 10 percent more than in 1947.

Virtually every existing peacetime record in the

trucking field was smashed during 1948. Here are a few: (1) Production of commercial units—trucks and buses—reached a total of 1,371,000, the third time in history that output topped the million mark. It exceeds last year's previous high mark by nearly 11 percent and 1941 by nearly 30 percent; (2) Registrations totaled 7,687,000 units, a 10 percent gain over 1947 and nearly 50 percent higher than 1941. For the first time in history, a single year's registrations of new trucks and buses exceeded the million mark; and (3) Wholesale value of the industry's truck and bus production reached \$2,139 million in 1948. This figure is 25 percent higher than that of 1947, and approximately double 1941 output value. It almost equals the combined wholesale value of both passenger car and truck production in 1939.

A vast increase in the use of trucks was noted in virtually every area of the nation. Eight states show an increase of 70 percent or more in truck and bus registrations over 1941.

A new record was set in replacement parts production, which had a wholesale value of about \$2,600 million for 1948—10 percent above 1947 and about four times the prewar rate.

Wholesale value of passenger cars produced in 1948 was about \$4,800 million; wholesale value of trucks and buses was \$2,100 million.

The number of motor vehicles in use by the end of 1948 exceeded 41 million. They included 33.3 million passenger cars (3.7 million more than in 1941) and nearly 7.7 million trucks and buses (2.4 million more than in 1941).

These vehicles rolled up about 400,000 million travel miles for the year, or 20 percent more than in 1941 and 8 percent more than in 1947.

Special motor vehicle taxes also reached new peaks in 1948, totaling nearly \$3,400 million. They included \$2,100 million in state gasoline and license taxes, \$1,100 million in Federal taxes, and \$180 million levied locally.

In all, 442,000 motor vehicles were exported in 1948. This was nearly 14 percent less than the 512,333 units sent abroad in 1947.

The 442,000 vehicles exported included 240,000 passenger cars, or 6 percent of the 3,911,000 cars turned out, and 202,000 trucks and buses, or approximately 15 percent of the 1,371,000 trucks and buses made in the U.S. for 1948.

Motor vehicles exported in 1948 accounted for 8½ percent of the year's production, as against nearly 11 percent of total production in 1947 and approximately 14 percent in 1929.

South American countries, particularly Brazil, Venezuela, and Argentina, continued among the top importers in the truck field. Mexico and India also were among the leading truck importers.

While South America imported more trucks than any other single continent, it ranked next to last among the continents as an importer of passenger cars. Largest shipments of cars went to the Union of South Africa, Asia, and Oceania.

In Europe, only Belgium and Luxembourg were important importers of U.S. motor vehicles. Because of the move to conserve national currency in foreign nations, American automobile exporters, toward the close of the year, were being forced out of several large markets, notably Sweden and South Africa.

In contrast to the relatively few motor vehicles exported by American manufacturers in 1948, Britain exported 7 out of every 10 passenger cars produced and nearly half of the trucks and buses manufactured. Imports of new cars showed a sharp increase.

Because of the high output of replacement parts since the war, about 24½ million prewar cars remained in service in 1948. Of the 33.3 million passenger cars registered in the nation, about 9 million were postwar models, 10½ million were cars built between 1939 and 1942, and nearly 14 million were automobiles built before 1939.

Since the average car was scrapped at the age of 10 before the war, it meant that nearly 14 million cars in 1948 were beyond the age at which cars formerly were scrapped. The average car age in 1948 was about 8.7 years, compared to a prewar average of 5½ years.

During the year the U.S. automotive industry produced its 100 millionth motor vehicle. This significant milestone was marked by special celebrations in many parts of the nation during the fall months.

During the 55 years it took American manufacturers to produce 100 million motor vehicles, the remaining countries of the world were turning out a total of 24 million motor vehicles.

It was 1925 before the U.S. car, truck and bus manufacturers achieved production of their first 25 million vehicles. The next 25 million were made between 1925 and 1931, an era of high output. It took eight more years, until 1939, for the industry to produce its third 25 million vehicles. The fourth 25 million cars, trucks and buses took nine years to build. However, nearly four of those years saw the U.S. automotive industry entirely devoted to military production—the first time in history that car assembly lines had been completely suspended.

During the past year, the industry moved forward on expansion and modernization programs. Since the end of World War II, 42 major new manufacturing and assembly plants have been added to the industry's capacity. U.S. assembly plants now number 112. They are located in 80 cities of 24 states.

How fully the industry utilizes production capacity in 1949 once again depends upon the supply of steel. With the possibility of record production of steel in 1949, the automotive industry is hopeful that more sheet and strip steel will be available and that 1949 will prove to be the highest automotive production year in history.

—WILLIAM J. CRONIN

MOZAMBIQUE (Portuguese East Africa). A Portuguese colonial possession in southeast Africa comprising the four provinces of Sul do Save, Manica and Sofala, Zambesia, and Niassa. Total area: 302,700 square miles. Population: 5,030,179 natives (1940), 60,115 non-natives (1945), and 31,221 Europeans. Estimated 1947 population: 6,116,000. Capital: Lourenço Marques (pop. 47,390). Education (1946): 878 primary schools with 132,291 pupils, 1 high school with 744 students, and 46 professional schools with 4,768 students. There are three colleges with 122 students.

Production, etc. Principal products (in tons) in 1945 were: sugar 42,573, copra 40,895, bananas 24,619, ground nuts 20,141, and sisal 17,932. Timber, tea, and ivory are also important.

Mineral output includes gold, silver, samarskite, and coal. During 1947, 6 uranium and 3 asbestos deposits were discovered. Foreign trade (1947: 9 mos. actual, 3 mos. est.): imports 1,203,866,000 escudos; exports 1,092,000,000 escudos.

Government. Budget estimates (1946): revenue 892,904,000 escudos; expenditure 839,871,000 escudos. A Governor General heads the administration of the colony and each of the provinces

is headed by a Governor. There is a Government Council (composed of the provincial governors, official elected members, and the commanding general) and an Executive Council. Governor General: Commander Gabriel Teixeira.

MUSCAT and OMAN. An independent sultanate in southeastern Arabia. Area, 82,000 square miles; estimated population, 500,000, mainly Arabs, but with a strong infusion of Negro blood near the coast. Chief towns: Muscat, the capital, 4,200 inhabitants; Matrah, the chief commercial center, 8,500. On the northern coast of the Gulf of Oman is the port of Gwadar which is a possession of the sultanate. Chief products: dates (1915-46 export Rs8,473,200), pomegranates, limes, and dried fish. Camels are raised by the inland tribes. Trade (1946-47): imports Rs18,530,300, exports Rs17,134,500. Trade is mainly with India. Rice, sugar, wheat, and coffee are the principal imports. Muscat is the only port of call for steamers. Pack animals are used for inland transport. There is a motor road connecting Muscat and Matrah and extending to Kalba. Roads suitable for motor vehicles join Hagar, Boshier, and Qariyat with Matrah. The annual revenue is estimated at Rs700,000. Sultan, Sir Saiyid Said bin Taimur.

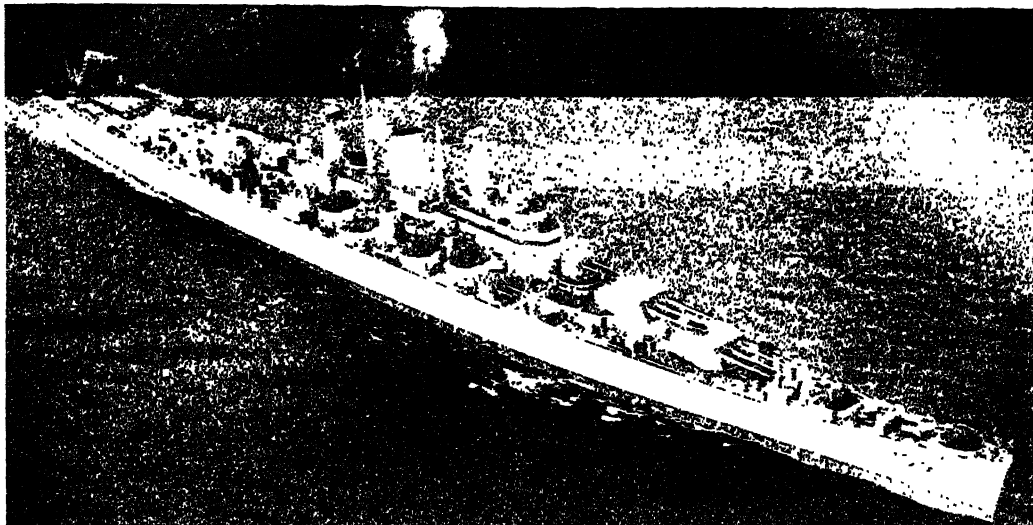
MUSIC. Few years in recent memory have yielded so rich a crop of new musical works that are likely to acquire a permanent place in the repertory. The most important of the new American works was heard early in the year when Serge Koussevitzky and the Boston Symphony Orchestra performed Walter Piston's *Symphony No. 3*. A work of extraordinary communicative power, it has a wider emotional range than most Piston works, passing from an almost delicate wit to a pastoral-like serenity, from introspective calm to dramatic intensity. Piston's *Symphony* was not slow in receiving the acclaim it deserved. Before many months had passed it won the Boston Symphony Horblit Award of \$1,000 and the Pulitzer Prize in music.

Another *Third Symphony* proved a notable contribution, that of Wallingford Riegger. More modern in its idiom than that of Piston, this work has a forcefulness of speech, a passionate sincerity, and an integration of form which singled it out forcefully from among the new music of the year. Indeed, the Music Critics Circle of New York selected it as the most important new work heard during the 1947-1948 concert season.

Igor Stravinsky's new ballet, *Orpheus*, introduced by the Ballet Society of New York, proved to be one of his greatest scores. The classic story of Orpheus and Euridice inspired him to write simply and directly, to achieve, with the most sparing strokes, a deeply affecting eloquence. A high degree of expressiveness, an almost gentle melancholy, brings to the music a human quality not often encountered in the later Stravinsky.

A work, far different in style and scope, introduced a new creative personality; the *Symphony for Classical Orchestra* by Harold Shapero, performed by the Boston Symphony under Leonard Bernstein. Austere in its style and ultra-modern in its utilization of harmonic and rhythmic resources, this new symphony betrayed an inventiveness of a high order and excellent craftsmanship. A composition, more palatable to the ear, racy in its utilization of jazz rhythms, was introduced on the very same day (January 30) in another city: Henry Brant's *Symphony No. 1*, performed by the Cincinnati Symphony Orchestra under Thor Johnson.

Another symphony worthy of special attention

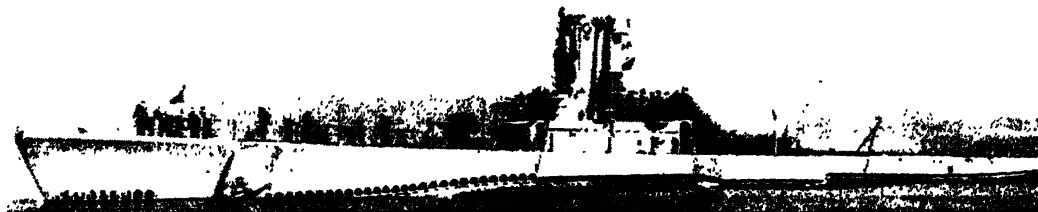


U.S.S. DES MOINES, the heaviest "heavy" cruiser in the world, which was commissioned during mid-November of 1948.

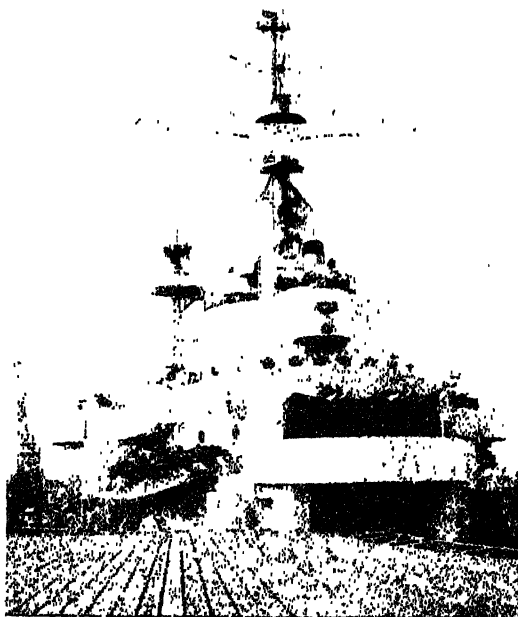


U.S.S. NORTON SOUND. On the stern are the adjustable rocket launching racks which are capable of launching V-2 type rockets as well as the slightly smaller Aerobee. In her capacity as a floating laboratory, the Norton Sound will be available for use by research agencies of all three branches of the Armed Services—the Army, the Air Force, and the Navy.

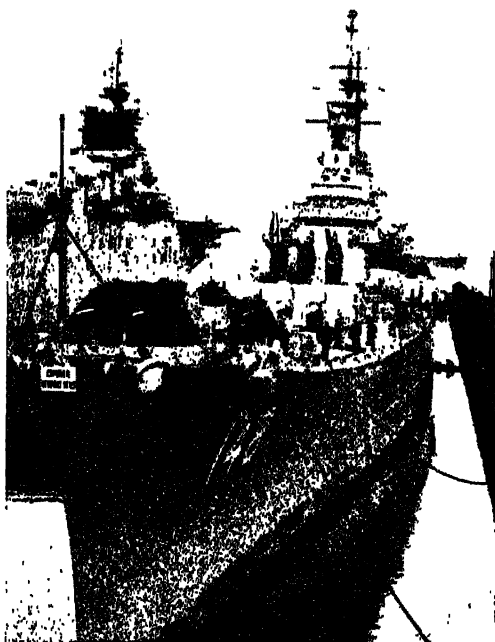
Official U.S. Navy Photos



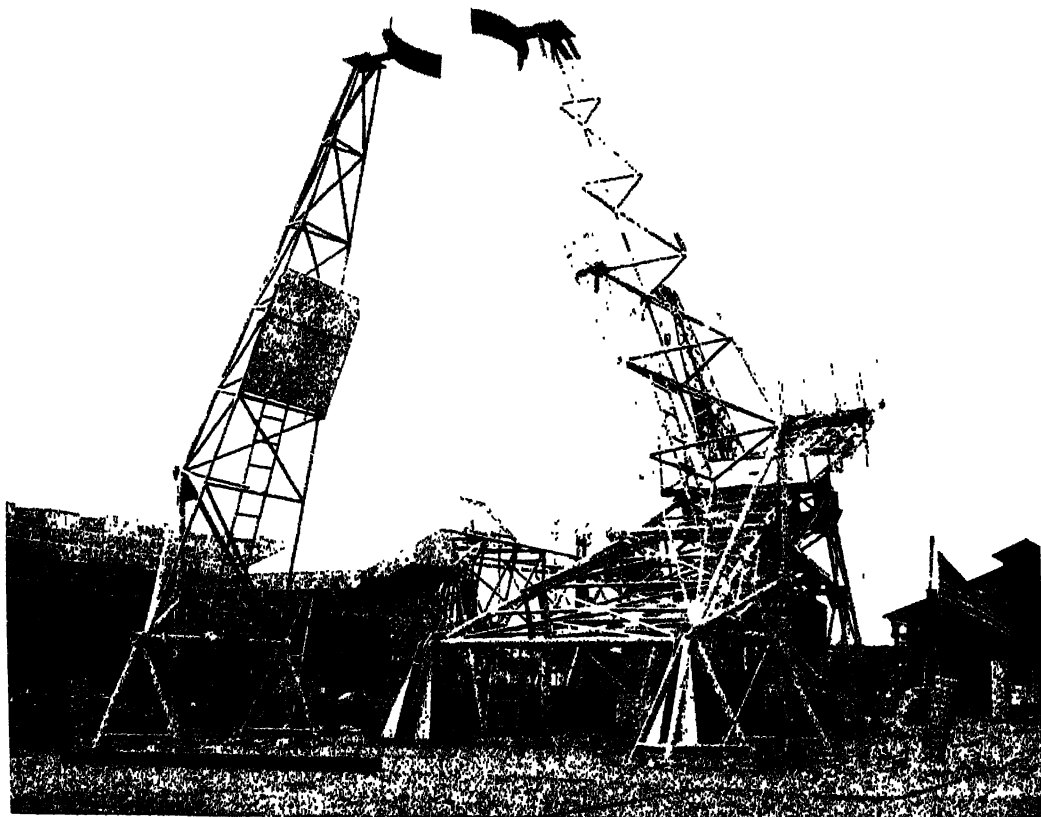
U.S.S. PERCH. A fleet-type submarine converted to a troop transport. The large cylindrical chamber abaft the conning tower (right center of photograph) on the after deck is a water-tight storage space for landing equipment.



TEST FIRE 14-TON ROCKETS. Close-up view of the bridge of the U.S.S. Norton Sound. After end of the foredeck landing platform is shown in the foreground.



U.S.S. NEWPORT NEWS, a 17,000-ton heavy cruiser, is equipped with nine completely automatic, rapid firing, 8-inch guns, triple-mounted in three turrets.

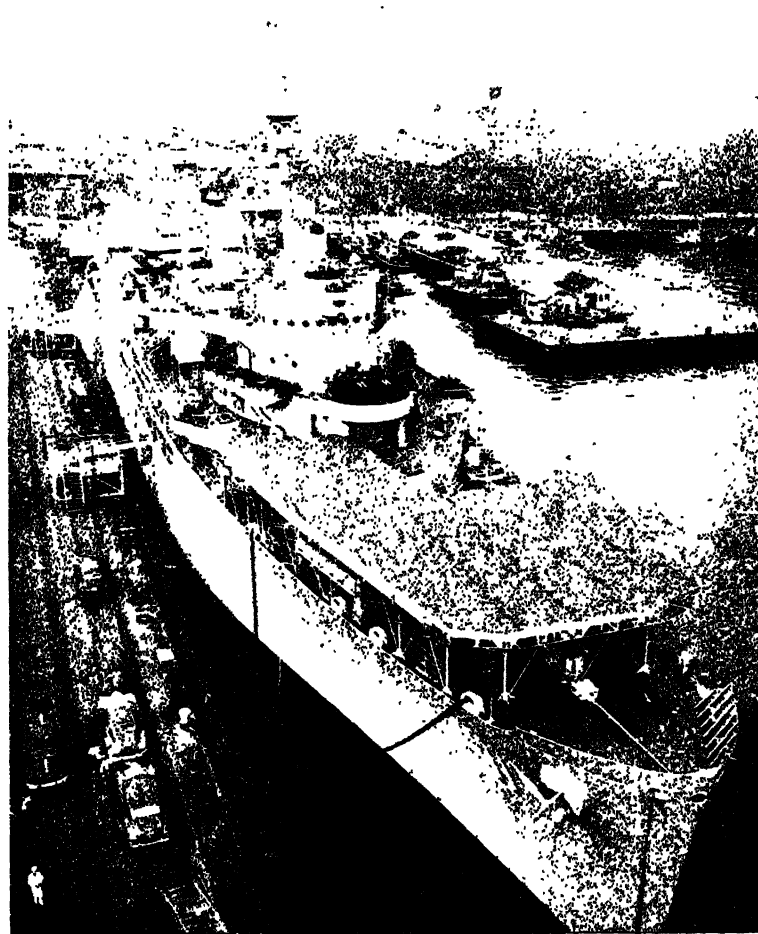


ROCKET LAUNCHING. A close-up view of the special rocket launching racks installed on the after deck of the U.S.S. Norton Sound. The broad seaplane deck was covered with metal sheathing to withstand the heat created by firing the rockets from their vertical cradle. Also installed were tanks for the special fuel used in rockets.

Official U.S. Navy Photos



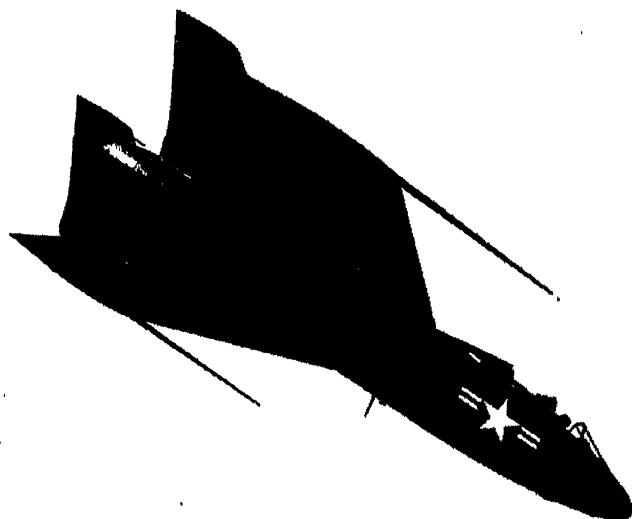
U.S. NAVY CARRIER. An artist's drawing of the U.S. Navy's authorized 65,000-ton flush deck aircraft carrier. Her over-all length will be 1,090 feet, waterline beam 130 feet, and maximum fixed width 190 feet. Speed: about 33 knots.



ROCKET TESTS. Bow on view of the U.S.S. Norton Sound, the U.S. Navy's first "Buck Rogers" ship—a large seaplane tender modified to permit the experimental firing of 14-ton rockets from her broad after deck. Her basic mission is to widen the horizon of upper atmosphere research through rocket firing experiments far out at sea.



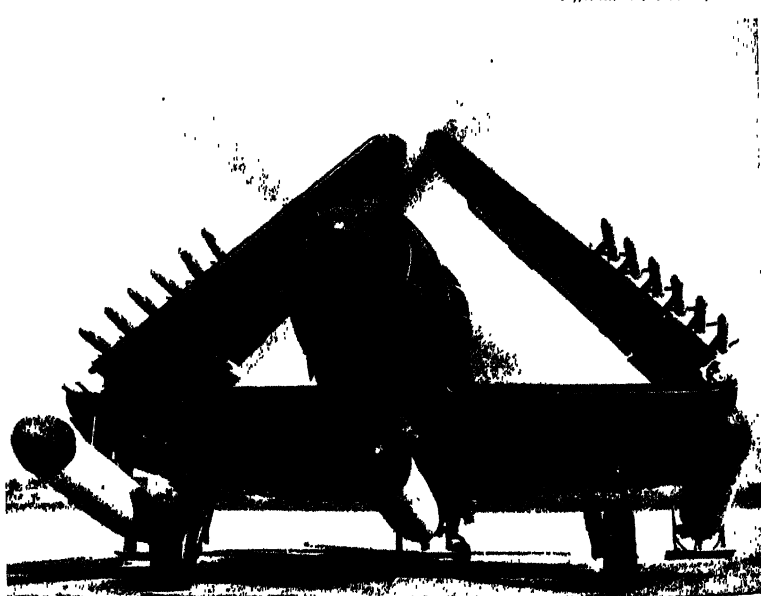
LOAD CARRYING CHAMPION, a Martin AM-1 Mauler, the Navy's fastest and most heavily armed carrier-based dive bomber, is pictured carrying a payload of more than 9,000 lb. 3 full-size torpedoes, 12 rockets, and 4 aerial cannon.



TWIN JET FIGHTER, the Chance Vought XF7U-1, U.S. Navy twin-jet fighter, designed for carrier operations, has successfully completed its initial flight testing at the Naval Air Test Center, Patuxent, Maryland. This tailless plane with swept-back wings is capable of speeds up to and exceeding 600 m.p.h.

Official U.S. Navy Photos

MARTIN AM-1 MAULER, another view of the U.S. Navy's Mauler. The payload of destruction pictured on the Mauler (at right) is considerably less than the maximum possible for the single-engine, one-man airplane, which is powered by the 3,250-h.p. Pratt & Whitney Wasp Major.



was Frederick Jacobi's *Symphony No. 1*, which Pierre Monteux directed with the San Francisco Symphony Orchestra. It has pronounced Oriental colorings, with fullsome, buoyant themes and a poignant slow movement.

Other new works by composers in America which were creditable contributions to the year's music were: Samuel Barber's *Knoxville: Summer of 1915*, for soprano and orchestra; Henry Cowell's *Big Sing*; David Diamond's *Symphony No. 4*; Earl McDonald's *Saga of the Mississippi*; Douglas Moore's *Farm Journal*; Nicolas Nabokov's *The Return of Pushkin*, for high voice and orchestra; Karol Rathaus' *Vision dramatique*; Virgil Thomson's *The Sette at Midnight*; and Ernst Toch's *Hyperion*.

One American composer was a victim of the political storms and stresses of the year. Hanns Eisler, who had been composing music in Hollywood for the past six years, and who had been summoned in 1947 to appear before the House Committee on Un-American Activities on suspicions of being a Communist, was during the year convicted for contempt of Congress and for passport fraud. Despite his vehement denials that he was, at the present time, a member of the Communist Party, and despite his protestations that his writing of revolutionary songs was an artistic phase that he had long ago abandoned, Eisler was ordered deported by the Immigration and Naturalization service of the U.S. Department of Justice. He left the country for Paris on March 25. His deportation was prefaced by concerts of his works both in Los Angeles and New York which emphasized that, whatever his political affiliations may have been or still are, he is a brilliant creative personality whose utilization of the atonal style is powerful and original.

The new works by foreign composers heard in this country during the year were equally fertile in number and no less significant in quality than the native products. The year was inaugurated with one of the most important of these new works, on January 1, when the New York Philharmonic, under Charles Muench, presented the American premiere of Arthur Honegger's dramatic oratorio, *Jeanne d'Arc au bûcher*. The Honegger music caught many of the symbolic and mystic nuances of the Paul Claudel text; a great measure of the artistic success of this work is due to the felicitous union achieved between the poem and the music.

A new symphony by England's foremost composer, Ralph Vaughan Williams, is inevitably an event of first importance. His sixth received its premiere in London on April 21 under Sir Adrian Boult and was introduced in this country a few months later by Serge Koussevitzky at the Berkshire Music Festival. This new symphony has closer spiritual kinship with its immediate predecessor, the fourth, than to any other Vaughan Williams symphonies. Like the fourth, a mood of tranquillity and calm are maintained, frequently echoing spiritual overtones. The work has the wisdom and mature contemplation of ripe old age which refuses to be jarred by the surrounding turmoil and chaos but finds refuge in meditation. Mastery of writing is, of course, a foregone conclusion with anything by Vaughan Williams.

A new symphony by still another major European composer was heard: Malipiero's fourth. The world premiere took place in Boston under Serge Koussevitzky. It is a deeply moving work written ostensibly in memory of Koussevitzky's late wife Natalie, but actually as a threnody to war-scarred Italy. World War I had three decades ago inspired

Malipiero to write his masterpiece. *lenzio*; and it appears that World-fected Malipiero equally profoundly another great work.

One of Richard Strauss' most recent heard in this country for the first time by of a nation-wide broadcast: the *Concerto for Oboe and Orchestra*. Nothing of recent Strauss vintage is particularly intoxicating, but the new concerto is, though hardly momentous, at least ingratiating. Its style reaches far back into Strauss' early manhood when he was influenced by the post-romanticism of Brahms. It is melodious, warmly orchestrated, sensuously harmonized. While adding nothing to Strauss' stature, it is at least a welcome addition to the none too prolific literature for oboe.

An event of considerable artistic importance took place in Philadelphia on March 19: the American premiere of the *Symphony* of Serge Rachmaninoff, long lost. Eugene Ormandy conducted the Philadelphia Orchestra. Though obviously early-Rachmaninoff, the symphony reveals little of the awkwardness and self-consciousness which we usually find in first symphonies. It has considerable melodic interest and, while no masterpiece, is a worthy companion to the familiar second and third symphonies.

Bohuslav Martinu's *Fifth Symphony*, heard here for the first time in a broadcast by the NBC Symphony Orchestra under Ernest Ansermet, can, on the other hand, be designated as a great symphonic work. It is built along noble and spacious lines and is permeated with an engaging charm.

Charm, too, is the dominating quality of the new Khachaturian *Concerto for Cello and Orchestra*, which Edmund Kurtz performed with the Boston Symphony Orchestra. It is beautifully written for the solo instruments, has fascinating contrasts of color and mood, and is rich with exotic atmospheres.

Concert and Operatic Activity. The orchestral picture experienced a few important changes during the year. One of these—possibly the most important—will, however, not become effective until the fall of 1949. On April 8, Serge Koussevitzky announced that at the termination of his silver jubilee season of 1948-1949 he would retire as music director of the Boston Symphony Orchestra. At the same time it was announced that his successor would be Charles Muench.

Change, too, came to the Chicago Symphony Orchestra, accompanied by controversy. In the fall of 1947, Artur Rodzinski had become the new music director. But not many weeks passed after the assumption of his duties before violent disagreements arose between him and the management. His repeated indispositions, necessitating last-minute substitutions at the podium, his indulgence in expensive opera productions, his refusal to adhere to advertised programs, his frequent demonstrations of artistic temperament, all proved too intolerable to the conservative management, which announced with finality, on January 13, that the new conductor would not be re-engaged for the 1948-1949 season. In Rodzinski's place there appeared guest conductors.

Guest conductors replaced Fritz Reiner on the conductor's platform of the Pittsburgh Symphony Orchestra for the 1948-1949 season. Reiner, who had served brilliantly for a decade in Pittsburgh, had decided to transfer his baton to the Metropolitan Opera House in New York.

Two other important American orchestras had new conductors in the fall of 1948. Efraim Kurtz, for many years the successful director of the Kan-

as City Philharmonic, went to the Houston Symphony, his place in Kansas City being assumed by Hans Schwieger, formerly of the Fort Wayne Symphony.

Two major personalities of the baton made their reappearance on the American scene during the year. Ernest Ansermet, one of Europe's venerable conductors, directed several concerts with the NBC Symphony and appeared as guest with other major American orchestras—his first return to this country in 11 years. His performances revealed his fine intelligence, taste, and mature experience. Victor de Sabata, eminent Italian composer and conductor of La Scala in Milan, appeared with the Pittsburgh Symphony, his first performances in this country since 1927. His return was one of the artistic events of the season. His virtuosity is second to none; his is an enviable talent to bring even to thrice-familiar classics a freshness of viewpoint and an originality of conception.

For a brief period, the storm of controversy raged around Leonard Bernstein, the brilliant young conductor of the New York City Symphony. Compelled by budgetary considerations to curtail the activities of the New York City Symphony for the 1948-1949 season, Bernstein (who receives no pay for his services) finally announced that he could not tolerate retrenchment and would resign his post.

The matter was eventually ironed out, with the orchestral management guaranteeing Bernstein that the funds would be found to carry out the artistic plans of the orchestra in full. However, since in the interim Bernstein had accepted the post of musical adviser of the Israel Symphony Orchestra for 1948, it was announced that the New York City Symphony would abandon its activities for one season, but would return in 1949-1950 under Bernstein's direction.

In the world of opera, the major news of the year was the threatened cancellation of the 1948-1949 season by the Metropolitan Opera Association, brought about by the demands of the unions for higher salaries in the salaries of all employees, demands which the management insisted it could not meet. Only the belated consent by the unions to forego their pay increases for the time being enabled the Metropolitan to reconsider its original decision. However, since negotiations were carried on up to Labor Day, the management found it necessary to curtail the season by two weeks, and to postpone its customary early-November opening until November 29.

The threatened closing of the Metropolitan precipitated heated discussions regarding the management and its policies. The severest critic was Billy Rose, the showman, who offered to take over the direction of the opera house and to guarantee its financial security. Rose also devoted a week of columns, syndicated throughout the country, to prove that the Metropolitan was burdened artistically and financially by its stubborn adherence to obsolete methods and policies. The officials of the Metropolitan made no attempt to answer these charges; but some credence was given to the validity of Rose's arguments when Edward Johnson, general manager of the Metropolitan, dispensed with the traditional press conference, prior to the opening of the season.

The Metropolitan premiere of Benjamin Britten's *Peter Grimes* (a production that, though carefully planned, suffered from poor dynamics, sorry diction, and anachronistic staging and costumes), the presentation of Wagner's *Ring der Nibelung* in a completely new staging and with effective new sets

of Lee Simonson, and the successful Metropolitan debut of the tenor Giuseppe Di Stefano were to be considered among the major items of interest at the Metropolitan during the year. On April 13, the Metropolitan visited Los Angeles for the first time in 42 years and achieved such an unprecedented financial and artistic success during its two-week engagement that new impetus was given to the movement, begun a year ago, to create a new opera house in Los Angeles expressly for the future annual visits of this company.

Two new American operas were heard during the year. In New York City, Otto Luening's *Evangeline*, performed at Columbia University, was found to be dramatically weak, though it did possess fine moments of vocal writing. More original and more appealing esthetically was Kurt Weill's *Down in the Valley*, a one-act folk opera, introduced at Indiana University in Bloomington, Ind. A splendid libretto by Arnold Sundgaard, which built up dramatic action through a series of effective flash-backs, combined with a melodious score, built out of American folk-music materials, made for excellent theater.

An important opera revival took place during the summer at the Berkshire Music Festival. It was Rossini's *Turco in Italia* which had not been heard in this country since 1836, presented by the Opera Department of the Berkshire Music Center. Readapted for the stage and boasting a new libretto (in English), the Rossini opera acquired a new lease on life. The score, tempered with only in negligible details, was a joy throughout, in the best traditions of the *opera buffa*, sparkling with wit and effervescence, and containing some of the composer's best ensemble writing. Brightened further by a sprightly and enthusiastic performance, this revival was one of the operatic delights of the year.

There were several new operas heard in Europe during the year, but two seemed to appeal most to the foreign critics. A new opera by Frank Martin, the noted Swiss composer, was heard at the Salzburg Festival—*Le Vin herbé*. Based on the legend of Tristan and Isolde, it utilized the most economical means—limited stage action on a small stage, and an accompanying orchestra of 11 musicians—to achieve its artistic ends. In Berlin, there took place the premiere of a fairy-tale opera by Carl Orff, *Die Kluge*, exploiting a primitive style emphasizing percussive effects. A successful operatic event in London was the new adaptation of *The Beggar's Opera* by Benjamin Britten.

Among the notable new performers heard during the year in this country were Nicole Heniot and Arturo Michelangelo, pianists—the one, from France, the other from Italy—and both, by coincidence introducing themselves with musicianly readings of the Schumann *Piano Concerto*. Aksel Schiøtz, Danish tenor—whose fame preceded him to this country through his remarkable recordings—came here with a voice greatly impaired by a recent serious throat operation. But the aristocratic style that made his rendition of old music and *Lieder* such a joy on records was still in evidence, and made for a pleasurable evening of music-making.

Elbe Stignani, also long known to us through records, made her American debut and reaffirmed the conviction of many music lovers that here is one of the most brilliant coloratura voices of our time. Among prodigies, the most significant was 16-year old Ervin Laszlo, a native of Hungary, who gave astonishing evidence of technical powers and interpretative insight in his debut as pianist. Ferruccio

Burco, the 8-year old conductor who had created a stir in Italy, made an intensive American tour. He has a clear beat, a good rhythmic sense, and a familiarity with the music he conducts; his scope is, of course, limited, and within that scope he fails as yet to give any convincing indication of exceptional musical insight.

Festivals. The festival season at Tanglewood, under the artistic direction of Serge Koussevitzky, had its most successful returns thus far. The total attendance for all the festival performances was more than 170,000, representing an increase of 25,000 over the preceding year. It was a distinguished year from the artistic point of view as well, with excellent orchestral and chamber-music concerts, and several major premieres and revivals. Of these, the American premiere of Ralph Vaughan Williams' *Sixth Symphony* and the revival of Rossini's *Turco in Italia* have already been touched upon. Significant, too, was the world premiere of Hindemith's *Sonata for Cello*, presented by Gregor Piatigorsky.

The two most important festivals of Europe were no less successful. In Edinburgh, the second International Festival of Music and Dance, which closed on September 12, attracted more than 250,000 spectators to its varied program of activity. This included ballet performances by the Sadler Wells Ballet Company; orchestral concerts by some of Europe's leading symphonic organizations, led by Eduard van Beinum, Charles Munch, Sir Malcolm Sargent, John Barbiroli, Ian Whyte, and Wilhelm Furtwaengler; solo performances by Yehudi Menuhin, Artur Schnabel, Alfred Cortot, Gregor Piatigorsky, and other world-famous artists; presentations of Mozart operas by the Glyndebourne Opera Company. Both in the wide range of its activities and in the quality of its presentations, it has earned its right to be classified as the cultural rival to Salzburg.

In Salzburg, the world premiere of Martin's *Le Vin herbe*, already commented upon, was the novelty to add spice to the customary musical fare. Performances under the direction of Herbert von Karajan and Wilhelm Furtwaengler brought the artistic quality of this festival back to its lofty pre-war standards.

The International Music Festival at Venice—restored after an interruption of six years—placed considerable emphasis on modern opera, presenting as it did Hindemith's *Cardillac*, Milhaud's *Les Malheurs d'Orphée*, Gian-Carlo Menotti's *The Telephone*, and the world premiere of a one-act opera by Ricardo Nielsen, *L'Incubo*. Other events included an evening of modern ballet, several orchestral and chamber-music concerts, and a program of 15th, 16th, and 17th century Italian sacred and secular choral music.

Two American works were successfully performed at the 22nd festival of the International Society for Contemporary Music which this year took place in Amsterdam: Piston's *Sinfonietta* and Sessions' *Second Symphony*. Of the new works revealed in Amsterdam considerable interest seemed to be inspired by the *Sonata for Two Pianos* by Hans Henkeman and the *Six Symphonic Studies* by Arthur Malawski. A Ravel evening, a mass by Hendrik Andriessen, and a production of gamelan and East-Indian dances were other attractions.

Electronics. The field of electronics made some significant contributions to music during the year. On March 18, James Caesar Petrillo, president of the American Federation of Musicians, signed a new three-year agreement with the radio networks in which the ban long placed by Petrillo against

the use of musicians in television was finally lifted. The ink was hardly dry when both major networks proceeded to make radio history by televising orchestral concerts. On March 20, the first symphonic concert to be televised was broadcast over the CBS-TV network, presenting a concert of the Philadelphia Orchestra under Eugene Ormandy. A half hour later, the NBC Symphony under Arturo Toscanini was seen and heard over WNBT in New York. The first opera ever to be televised from the stage of a regular opera house was Verdi's *Otello*, transmitted over WNBT from the Metropolitan Opera House on November 29, the opening night of the season.

An important development in the field of phonograph recording took place with the public release of the Long Playing Record by Columbia Records, Inc. These microgroove recordings, which can be utilized only on turntables making 33 $\frac{1}{3}$ rpm instead of the customary 78, reproduce approximately 45 minutes of music on a single disc. This innovation represents a considerable saving not only in storage space of records and in price, but are even an improvement in the quality of high-range reproduction.

Awards and other Honors. The final round of a national piano-playing contest sponsored by the Rachmaninoff Fund two years ago, took place at Carnegie Hall, New York, on April 29. The winner, by a unanimous decision of a celebrated jury of musicians, was Seymour Lipkin. By virtue of this much publicized award he is being launched on a successful concert career. His prize is said to be the largest ever won by a virtuoso in a contest, estimated between \$25,000 and \$50,000, and includes a national concert tour sponsored by two major concert bureaus, guest appearances on nationally sponsored programs, and a recording contract with RCA-Victor. During the summer, Lipkin appeared as soloist with the Boston Symphony under Koussevitzky at Tanglewood, giving an electrifying and mature rendition of the Tchaikovsky *Concerto for Piano and Orchestra*.

The 1948 Pulitzer Prize in music went to Walter Piston for his *Symphony No. 3*. Wallingford Riegger's *Symphony No. 3* was selected by the New York Music Critics Circle as the most distinguished new work of the season, with Stravinsky's *Orpheus* receiving a special citation.

Dean Dixon, Negro conductor, was the recipient of the \$1,000 Alice M. Ditson Fund Award for the most distinguished services during the year to American music. Eugene Ormandy, the conductor of the Philadelphia Orchestra, was also honored for his contributions to American music, with a citation from the National Music Council.

The Metropolitan Auditions of the Air Awards—bringing with them contracts for the Metropolitan Opera House—were won by Marilyn Cotlow, soprano, and Frank Guarrera, baritone.

Obituaries. During the year, death came to Franz Lehar, the celebrated composer of operettas in general and *The Merry Widow* in particular. Lehar died in Vienna. Death took three other composers: Oley Speaks, creator of more than 250 songs, among them the beloved *Sylvia* and *On the Road to Mandalay*; Isidor Achron, pianist, and writer of music for his instrument; and the Brazilian composer, Oscar Fernandez, founder and director of the Brazilian Conservatory of Music.

Other notable musicians who died during the year included: Jacques Gordon, violinist and founder of the Gordon String Quartet; Olga Samaroff-Stokowski, one-time concert pianist and music critic, and more recently famous as a teacher

of the piano and lecturer on music appreciation; Lynden Behymer and Clarence C. Cappel, celebrated impresarios of music, the former in Los Angeles, the latter in Baltimore; John Avery Lomax, famed collector of American folk songs; and Clara Damrosch Mannes, wife of David Mannes, and with him a co-director of the Mannes School of Music.

—DAVID EWEN

NARCOTIC DRUGS CONTROL. International. The Commission on Narcotic Drugs of the Economic and Social Council of the United Nations, organized in November, 1946, held its third annual meeting at Lake Success, New York, May 3 to May 22, 1948. Mr. Stane Krasovec (Yugoslavia) presided, and fifteen nations (the full membership) were present.

The Commission agreed that, although a number of countries have declared their intention to abolish opium smoking monopolies and to suppress opium smoking in their territories in the Far East, the situation in some Far Eastern territories with respect to opium smoking has shown little improvement. It recommended that those Governments which have declared their intention to suppress opium smoking prohibit the import of raw opium into their territories except for medical and scientific purposes.

The Commission took note of a document submitted by the representative of the United States giving full information on the factory built by the Japanese authorities in Mukden for the purpose of manufacturing narcotic drugs to be distributed to the inhabitants of Manchuria. It was estimated this factory could produce 50,000 kilograms of heroin annually, an amount 50 times the annual legitimate needs of the world for this drug. Because narcotic drugs constituted, and may constitute in the future, a powerful instrument of the most hideous crime against mankind, the Commission recommended to the Economic and Social Council that it ensure that the use of narcotics as an instrument of committing a crime of this nature be covered by the proposed Convention on the Prevention and Punishment of Genocide.

International control of synthetic drugs having habit-forming propensities would appear to be assured, since by November 23, 1948, a total of 48 nations had signed the Protocol bringing such drugs under international control.

Colonel C. H. L. Sharnan (Canada) was unanimously appointed by the Commission a member of the Drug Supervisory Body, whose main function is to examine the estimates furnished annually by governments, showing their legitimate requirements for narcotic drugs.

Harry J. Anslinger, Commissioner of Narcotics, U.S. Treasury Department, attended the Commission Sessions as the American delegate. He had as advisors John W. Bulkley, Bureau of Customs, Treasury Department, and George A. Morlock, Department of State. The Permanent Central Opium Board and the Drug Supervisory Body, set up under earlier international conventions, were represented at the Commission sessions by Herbert L. May (United States).

National Control. The fiscal year ending June 30, 1948, saw a continuation in the increase of seizures of illicit narcotics from Europe. Customs officers at New York seized 9½ pounds of pure heroin from a French airplane which arrived from Marseilles. Combined seizures of opium and its derivatives by Customs officers and Narcotics agents amounted to approximately the same as in the previous year. Marihuana seizures increased greatly, being about

twice as much as in the preceding like period. Mexico continued to be an important source of smoking opium. During the early part of 1948 there appeared to be a decrease in the seizures of smoking opium from Mexico, but seizures began to increase again during the late months of that year.

Thefts from legitimate supplies, as well as prescription frauds, continued a major problem in enforcement of the Narcotics laws. Four synthetic narcotic drugs are now covered under the Federal narcotic laws. They are: Demerol, Amidone (Dolophine, Methadon, etc.), Isoamidone and Ketobemidone.

—HARRY J. ANSLINGER

NARCOTICS, Bureau of. A Bureau of the U.S. Department of the Treasury, established in 1930. Commissioner: Harry J. Anslinger. See NARCOTIC DRUGS CONTROL.

NATIONAL ACADEMY OF DESIGN. An organization of American artists, founded in New York in 1925 by Samuel Morse and incorporated in 1928 for the purpose of "cultivation and extension of the arts of design." In 1906 the Society of American Artists merged with the Academy.

The Academy maintains annual exhibitions of painting, sculpture, graphic arts, and water color to which all artists may contribute, subject to jury; various prizes are awarded. It conducted an Art School at which no tuition was charged, and which has been discontinued pending the erection of a suitable building. It administers the Henry W. Ranger Fund for the purchase of paintings to be presented to various museums. Membership (891 in 1948) is limited to professional painters, sculptors, workers in the graphic arts, architects, and aquarellists.

Academicians elected during the year 1948 were: *Painters*—Armin Hansen, Jes Schlaikjer, Zoltan Sepeshy, Ferdinand E. Warren; *Sculptors*—John Angel, Cecil Howard; *Graphic Artist*—Stephen Csoka; *Architects*—Wallace K. Harrison, Edward S. Hewitt, Charles D. Lay, William Platt, Lawrence C. White; *Aquarellists*—Julius Dollos, Eliot O'Hara, John Pike, Donald Teague.

Associates elected during the year 1948 were: *Painters*—Alexander Brook, Peter Blume, Louis Bouche, John Carroll, Edwin Dickinson, Ernest Fiene, Henry Mattson, Henry Lee McFee, Henry V. Poor, Zsissy; *Graphic Artists*—Piske Boyd, Howard N. Cook, Lewis C. Daniel, Helen W. Heller, Edward T. Hurley, Rockwell Kent, John C. Menham, Hans A. Mueller, Benton Spruance, Prentiss Taylor; *Sculptors*—Jose de Creeft, Sylvia S. Judson, Henry Kreis, Ivan Mestrovic, Carl Milles, Eleanor Platt, Carl L. Schmitz; *Architects*—Theodore E. Blake, Arthur F. Brinckerhoff, Otto R. Eggers, Alfred M. Githens, Andrew H. Hepburn, Douglas W. Orr, Ralph Walker; *Water Colorists*—Henry Casser, Hardie Gramatky, Dong Kingman, Emil J. Kosa.

Officers: President, Hobart Nichols; First Vice President, John Taylor Arms; Second Vice President, Adolph Weinman; Corresponding Secretary, Eliot Clark; Recording Secretary, Isabel Bishop; Treasurer, F. Bullard Williams. Headquarters: 1083 Fifth Ave., New York 28, N.Y.

NATIONAL ACADEMY OF SCIENCES. A scientific organization that originated from the need of the U.S. government for technical scientific advice in connection with the Civil War. Its charter, passed by the U.S. Congress and approved by President Lincoln in 1863, provides that it shall investigate, ex-

amine, experiment, and report upon any subject of science or art whenever called upon by any department of the government. The membership of the Academy is limited to 450 citizens of the United States and 50 foreign associates.

The Academy and the National Research Council (q.v.), founded by the Academy, do not maintain scientific laboratories but function through sponsorship of conferences, technical committees, surveys, scientific publications, and administration of funds for research projects and fellowships. Administrative costs of the Academy and Council are charged against the income of a permanent endowment given, together with the building, by the Carnegie Corporation. Financial support of scientific projects is obtained from contracts with governmental and private agencies and from special grants from foundations, societies, and individuals.

The Academy issues the *Proceedings*, *Scientific Memoirs* and *Biographical Memoirs*. An Annual Report is made to Congress and published. Academy officers: Alfred N. Richards, President; Luther P. Eisenhart, Vice President; Detlev W. Bronk, Foreign Secretary; F. E. Wright, Home Secretary; William J. Robbins, Treasurer; Raymond L. Zwemer, Executive Secretary; G. D. Meid, Business Manager. Headquarters: 2101 Constitution Ave., Washington 25, D.C.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

The government's aeronautical research agency, reporting directly to the President. Its main Executive Committee, appointed by the President, is composed of 17 members selected from military and other government aviation agencies, the aircraft industry, and qualified scientists. All branches of aviation are represented on its subcommittees.

The NACA was established by Congress in 1915 to "supervise and direct the scientific study of the problems of flight with a view to their practical solution" and to "direct and conduct research in aeronautics." The NACA operates three major research laboratories: Langley Aeronautical Laboratory, Langley Field, Va.; Ames Aeronautical Laboratory, Moffett Field, Calif.; Lewis Flight Propulsion Laboratory, Cleveland, Ohio. In addition, a flight research station is maintained at Muroc Lake, Calif. and a pilotless aircraft research station on the Virginia coast. The NACA provides basic aeronautical knowledge through the medium of technical reports to the entire aviation and allied industries, the military services, educational institutions and technical libraries. Chairman: Jerome C. Hunsaker.

NATIONAL ARCHIVES. The. An independent establishment of the U.S. Government, created in 1934, which preserves and services the permanently valuable records of the Government. Holdings: more than 850,000 cubic feet, described in *Guide to the Records in the National Archives*. In June 1948 Dr. Wayne C. Grover succeeded Dr. Solon J. Buck as Archivist of the United States.

NATIONAL BUREAU OF STANDARDS. Established in 1901 by Act of Congress, the National Bureau of Standards is the principal agency of the Federal Government for basic research in physics, applied mathematics, chemistry, and engineering. It has custody of the national standards of physical measurement in terms of which all working standards in research laboratories and industry are calibrated, and carries on necessary research leading to improvement in such standards and measurement methods. In addition to its general responsibility

for fundamental research in the above fields, the Bureau undertakes specific research and development programs for various agencies of the Government, develops improved methods for testing materials and equipment, determines physical constants and properties of materials, tests and calibrates standard measuring apparatus and reference standards, develops specifications for Federal purchasing, and serves Government and the Nation in an advisory capacity on matters relating to the physical sciences.

The Bureau's direct appropriation for the last fiscal year was approximately \$7,900,000. This was supplemented by approximately \$8,900,000 in funds transferred by the Army, Navy, Atomic Energy Commission, and other Government agencies to support special projects undertaken for them. Typical projects of this type include guided missiles, proximity fuzes, optical glass development, and automatic electronic computing machines. Most of the Bureau's work was conducted in its laboratories at Washington, D.C., and the balance at its 17 field stations.

One of the most significant developments of the year was the discovery that frictional forces between solid surfaces and certain types of fluid media can be controlled by means of a magnetic field. This discovery is of fundamental scientific importance; its applications promise to be many. The initial application has been the design and construction of a new revolutionary clutch which consists essentially of a driving and a driven plate or cylinder having a magnetic fluid of iron powder and oil between them. A winding incorporated into the structure permits a strong magnetic field to be passed through the fluid, and the degree of coupling between plates is determined by the variation in strength of the current through the coil. The new clutch affords ease of control, high efficiency, smooth operation, rapid reversal, long life, and simplicity of construction.

The development of what is probably the ultimate standard of length was another striking scientific accomplishment. The new standard is the wave length of the green radiation of an isotope of mercury having mass 198. This isotope is obtained by transmuting gold into mercury 198 by neutron bombardment in an atomic pile. In precision, reproducibility, and convenience, the green line of mercury 198 is superior to both the standard meter and the red line of cadmium. The work in atomic and molecular physics also included investigations of nuclear radiations of radioactive isotopes. Accurate determinations of the energies of radiations from radioactive iodine 131 were made. Radiation standards for cobalt 60, iodine 131, and phosphorous 32 were developed. Research was in progress on standards for sodium 22 and carbon 14.

A unified program was planned in the field of electronic computers in cooperation with the Office of Naval Research, the Bureau of the Census, the Army, and the Air Force. In addition to consummating a contract for a machine for the Bureau of the Census, plans were under way for the construction of a small-scale computer, to be known as the NBS Interim Computer. Input and output systems for high-speed machines were designed.

An important achievement in standardization was the agreement of the United States, Great Britain, and Canada on uniform screw threads. The accord, signed at the Bureau on Nov. 18, 1948, marked the culmination of 30 years of effort by the Bureau, in cooperation with other government agencies, standardization bodies, and industry in the three countries.

Fasteners—screws, nuts, and bolts—enter into almost every modern product, and lack of uniformity has posed serious problems in replacement of such parts in exported and imported goods. Unification was achieved as to angle and thread form, number of threads per inch, and tolerances and allowances, thus permitting interchangeability of parts among the three nations. The most important technical decision here was standardization on the 60 degree screw thread angle, which has been the standard in this country.

A few other typical projects included resistance measurements of high precision, investigation of methods for testing tapes and wires for magnetic recording, measurement of insulating properties of plastics, thermal investigations of gases, research in superconductivity, combustion problems of gas turbines and jet engines, mechanics and thermodynamics of lubrication, x-ray protection studies, field measurements by electron microscopy, atomic energy levels, diverse studies of hydrocarbons, turbulence problems in aerodynamics, the absorption of sound by acoustic materials, super-sonic and ultrasonic studies, resin-bonding of paper, analysis of synthetic rubbers, the mechanism of fracture of metals, studies of metal corrosion, studies of the physical structure of concrete, high-temperature ceramics for special applications, electronic miniaturization, electron tubes, and a wide variety of topics in the field of radio propagation.

The test work of the Bureau involved over 250,000 tests and calibrations, having a total fee value of approximately \$1,000,000. This activity included such diversified projects as the testing of 3,000 dry cells and batteries; the sample-testing of over 4 million light bulbs, 100,000 clinical thermometers, and 5 million barrels of cement; testing of a million dollars worth of radium preparations; tests of standard electrical instruments; the furnishing of 18,500 standard chemical samples and of samples of standard oils for calibration of viscometers; and similar services.

The results of the Bureau's research were made available through 3 monthly periodicals (*Journal of Research*, *Technical News Bulletin*, and *Basic Radio Propagation Predictions*) and a series of non-periodical publications. An indexed list of publications (Circular 460, 375 pages, 75 cents) is available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

—HUGH OGBURN

NATIONAL INVENTORS COUNCIL. The Council was created in August, 1940, by the Secretary of Commerce, to act as a central clearing house for inventions and suggestions relating to the national security and welfare. In addition the Council seeks the aid of inventors and engineers on specific problems confronting the Armed Services. Since its creation, more than 250,000 inventions have been carefully examined and evaluated, a surprisingly large number of which have proved meritorious and useful. Dr. Charles F. Kettering, retired president of the General Motors Research Corporation, is Chairman, and other members include eminent scientists, inventors, Government officials, and business men well versed in the application of new devices, all of whom serve without compensation. The Council is assisted by a group of engineers—each a specialist in his own field—furnished by the Office of Technical Services of the Department of Commerce. Secretary of the Council: Lawrence Langner. Address: Office of Technical Services, U.S. Department of Commerce, Washington, D.C.

—JOHN C. GREEN

NATIONAL LABOR RELATIONS BOARD (NLRB). On June 25, 1947, the 80th Congress, over presidential veto, passed into law the Labor Management Relations Act, popularly known as the Taft Hartley Law. The new statute greatly amended the National Labor Relations Act of 1935 and enlarged its scope of activities.

In essence, the new law reaffirmed the right of employees to self-organization and to bargain collectively through representatives of their own choosing. It retained the unfair labor practices under the Wagner Act which proscribed employer interference, domination, discrimination, and refusal to bargain. To these unfair practices were added union unfair labor practices which regulate such union practices as secondary boycotts, featherbedding, excessive dues, etc.

In addition, the new law separated the prosecuting from the judicial functions by vesting final authority for investigation and prosecution of all unfair labor practice cases in the General Counsel; enlarged the former Board from three to five members; provided the Board with injunctive powers; and added four new types of elections to be conducted by the Board in addition to Wagner Act collective bargaining polls.

Since Aug. 22, 1947, the effective date of the new act, through Aug. 22, 1948, more than 42,000 cases were filed with the National Labor Relations Board. Of these, 30,964 were petitions for union-shop authorization polls, 8,051 were petitions for various types of representation elections, 3,060 involved charges of unfair labor practices filed against employers, and 915 concerned charges of unfair labor practices filed against unions. During the same period the Board conducted a total of 27,558 elections in which over 2½ million valid votes were cast.

Most of the Board's activities during the year were in the field of union-shop elections. It conducted a total of 23,752 such polls in which 2,248,501 valid votes were cast. In 98 percent of these elections employees voted "yes" to the question: "Do you wish to authorize (name of union) to negotiate with your employer for a contract requiring membership in the (name of union) as a condition of employment?"

At the same time, Board officials conducted 3,677 representation polls to determine employee choice of bargaining representatives. 134 of these elections were held at the request of employers. Of the total 3,677 polls conducted, labor organizations won 2,676 and lost 1,001. In addition, the Board held 129 decertification elections—polls to determine whether or not groups of employees wished to unseat a labor organization which had been representing them. In 45 of these elections the union was retained; it was rejected in the remaining 84 ballottings.

Of the 3,060 charges filed against employers 1,778 were filed by unions and 1,257 were filed by individuals. Employers filed 522 of the 914 charges against unions, individuals filed 312 of them and other unions 76. The most common charge filed against unions was that of secondary boycott. This charge was made in 285 out of the 914 cases.

To use the Board's facilities in any type of case, a labor organization must file non-communist affidavits for all of its officers, and the union itself must file financial and other data about its operations. As of Nov. 30, 1948, a total of 106,234 union officials had filed the required non-communist affidavits. As of that date, 176 national unions and 11,078 locals were in full compliance with both these affidavit and financial report requirements.

During the 12-month period, the five-man Board decided a total of 2,626 cases. The bulk of Board rulings were made in representation cases; it issued 1,696 decisions on representation questions as against 217 rulings on unfair labor practices. 713 other decisions concerned union-shop election petitions.

During its first year, the Office of the General Counsel petitioned Federal District Courts for 27 injunctions under the mandatory provisions of the law. In 18 of these, injunctive relief was granted; in four cases it was denied; three were withdrawn; and two are pending. All but one was based upon charges of secondary boycott. The remaining one was based upon a charge that a union continued picketing a store after another union had been certified as bargaining agent there. In addition, the General Counsel sought six injunctions under the Act's discretionary provisions. Of these, 3 were granted, 2 were denied, and 1 was withdrawn because the alleged illegal conduct had ceased.

A total of 3,933 Wagner Act cases were pending on the Board's docket as of Aug. 22, 1947, the effective date of the Taft-Hartley Act. During the following year, more than 42,000 new cases were filed with the agency. By the end of August, 1948, one year later, the Board had disposed of more than 35,000 of these cases, leaving a remainder of 10,371 pending disposition at various procedural levels. Of these 10,371 pending cases, 728, or 7 percent were filed before Aug. 22, 1947. A total of 595 of these 728 Wagner Act cases involved charges of unfair labor practices and 133 involved petitions for collective bargaining elections.

Of the 9,643 pending cases filed after Aug. 22, 1947, charges of unfair labor practices accounted for 1,825 and petitions for various types of elections 7,818 cases. Of the 7,818 election cases pending on August 31, 5,203 involved petitions for union-shop polls; 2,473 were petitions for collective bargaining elections; and 142 were petitions to decertify labor organizations.

With certain exclusions the Taft-Hartley Act covers the same area the Wagner Act did—employees of employers whose operations affect interstate commerce. As regards employees, excluded are supervisors, agricultural laborers, persons having the status of independent contractors, and employees subject to the Railway Labor Act. Employer groups excluded are Federal Reserve Banks, wholly-owned Government corporations, and non-profit hospitals. The Board has its headquarters in Washington, D.C. and maintains 28 regional offices.

—LOUIS G. SILVERBERG

NATIONAL MEDIATION BOARD (NMB). A nonpartisan independent Board of the U.S. Government, created by amendment of the Railway Labor Act in 1934. Its duty is to determine employee-representation and adjust collective-bargaining disputes between common-carrier railroads, airlines, and the express and Pullman companies, and their employees. Headquarters: Room 2018, Federal Works Agency Building, Washington 25, D.C. Chairman: Frank P. Douglass. Secretary: Robert F. Cole.

NATIONAL MILITARY ESTABLISHMENT. The unification of the Armed Services, sought by the President and Congress in the enactment and approval (July 26, 1947) of the National Security Act, had its first full year of experimentation in 1948. It was marked by progress in organization and closer cooperation and coordination, with much more progress in prospect from the studies and planning begun during the year.

However, it was the contrary evidence of differences between the Services which was more frequently in the public eye. Arising out of the pride and self-confidence of the individual services, these differences loomed large in the public mind and aroused wide-spread doubts as to the success of unification. The principal differences concerned air power, its strength in relation to land and sea power, and who was to control it.

Throughout the Second Session of the 80th Congress, the official program of the National Military Establishment, as voiced by Mr. James Forrestal, the Secretary of Defense, was built on what he termed the "balanced establishment." That is, he sought to give relative balance of strength to each of the services within the range of the total appropriations which Congress and the Administration felt justified to make. The original program laid before Congress by Secretary Forrestal provided a strength of 55 groups for the Air Force. However, civilian and military leaders of the Air Force, with the strong backing of the reports of the President's Air Policy Commission and the Congressional Aviation Policy Board, worked vigorously for higher appropriations to start on the way toward attainment of a 70-group force. Secretary Forrestal, supported by Army and Navy leaders, contended that to increase the Air Force to 70 groups and not give corresponding increases to the Army and Navy would throw the Establishment out of balance. Such an Air Force, he told Congress, would require a larger Army to seize and hold the larger bases from which the Air Force must operate, and a larger Navy to keep open the sea lanes to supply them. Subsequently the Secretary met with the Joint Chiefs of Staff and agreed to a plan to support 66 groups for the Air Force. Congress, however, was thoroughly convinced of the necessity for a greatly enlarged Air Force as a first line of defense, and by overwhelming majorities voted the funds necessary to launch the larger Air Force program. This was generally viewed by the public, as well as by Congress, which had so wholeheartedly encouraged it, as a major break of one service away from the over-all policy and control of the legally unified Military Establishment.

The Navy, on the other hand, strove to retain and enhance its position as a large-scale operator of air power, and to that end obtained legislative authority to suspend the construction of a number of modern vessels so as to divert the funds thus saved to begin construction of a new 65,000 ton "super" aircraft carrier. Air Force protagonists retorted that this contemplated the entrance of the Navy into the Air Force's province of strategic air warfare. The Navy subsequently announced that it would take some 3,000 obsolescent aircraft out of storage and organize them into units so as to accelerate attainment of the 14,500-plane strength it contended it needed. Air Force advocates continued to charge that the Navy was engaged in the building up of another air force in duplication of the U.S. Air Force.

Fanning the fire were numerous speeches by ardent Air Force and Navy advocates making broad claims for the effectiveness of their own services and, by implication, belittling the relative effectiveness of the other. These reached such a point that Secretary Forrestal issued an order that speeches of a controversial nature must be submitted to his office for clearance before delivery.

The Key West Conference. As early as March Secretary Forrestal sought to reconcile the differences and stop public criticism by establishing more clearly the functions of the Armed Forces and de-

lineating their responsibilities. To that end he called a conference with the Joint Chiefs of Staff. The meeting was held at the Naval Station at Key West, Florida, and resulted in the promulgation of a paper, "Functions of the Armed Forces and the Joint Chiefs of Staff," which subsequently replaced the original Presidential Executive Order (No. 9877) issued at the time of the approval of the National Security Act. In making this paper public, Secretary Forrestal said that there had been prior agreement on many of the issues which were controversial when the original law was enacted but "there remained certain differences among the services which had not been reconciled by the Joint Chiefs of Staff." He said further, "decisions have now been reached on all controversial points and I believe there is now general accord on practically all matters which were previously unresolved."

In general, the agreement represented little change from the assignment of functions originally determined upon. The major new feature was the assignment of "primary" and "collateral" functions to each service. The primary functions were those in which a specific service had a clear-cut responsibility. These were the ones that had been generally recognized as such before the conference. The collateral functions assigned to each service permitted its forces to be employed to support and supplement the other services in carrying out their primary functions "whenever such participation will result in increased effectiveness and will contribute to the over-all military objectives."

As an illustration of the new principle, the Secretary pointed out that "strategic air warfare has been assigned as a primary function of the Air Force, and the Navy is assigned as a primary function the conduct of air operations necessary for the accomplishment of objectives in a naval campaign. Provision has been made for naval aviation to participate in the over-all air effort as directed by the Joint Chiefs of Staff. Moreover, an understanding was reached, which does not appear in the 'Functions' paper, that the Navy will not be prohibited from attacking any targets, inland or otherwise, which are necessary for the accomplishment of its mission. Similarly, the Navy has been assigned the primary function of anti-submarine warfare, while the Air Force has been assigned that duty as a collateral function."

The Newport Conference. Subsequently, late in August, Secretary Forrestal called the Joint Chiefs of Staff into another conference with him, this time at the Naval Station at Newport, Rhode Island. Here, as before, the emphasis was on settling the divergent opinions of the Air Force and the Navy over the use and control of air power.

Following the Newport conference a joint meeting of 300 of the senior officers of the three services was held in Washington. Explaining the agreements to them Secretary Forrestal said:

"The topics discussed at Newport included . . . a clarification of some of the decisions reached at Key West last March in the field of assigned functions of each service. In the latter area there was agreement in a clarification of the responsibilities of the Services with respect to their primary missions.

"Specifically, this clarifies the position of the Air Force in the field of strategic air warfare and the position of the Navy in that field.

"Both from the language of the agreement and exchange of oral views between those who carry responsibilities in their respective services, I am convinced that at the top command levels there is a clear understanding of the exclusive role of

the Air Force in the field of strategic air warfare and conversely the intent of the Air Force is not merely to permit but to seek all the help it can get from the Naval Air in the use of airpower, either strategically or tactically.

"Likewise, the Navy is assigned the exclusive role in the field of anti-submarine warfare; and likewise the intent of the Navy is also to invite all the help it can get from the Air Force in carrying out this mission.

"However, these decisions as reached and the spirit of the conversations which took place can only have force and meaning if they are followed through with the aggressive intent to build and not to mar mutual confidence.

"The decisions themselves reflect neither a victory for the Navy nor a defeat for the Air Force. They do reflect my views and, if followed through with sincerity and tenacity, will mean a victory for the country."

Giving his interpretation to the same gathering, Admiral Louis E. Denfeld, Chief of Naval Operations, and a member of the Joint Chiefs of Staff, pointed out that the conference reiterated that strategic air warfare is a primary responsibility of the Air Force, which remains responsible to the Joint Chiefs of Staff and higher authority for making plans for strategic air warfare.

Admiral Denfeld, said, however, that a "significant addition" had been made at Newport: "The Air Force recognizes that the Navy will be able to make significant contributions to any strategic air plan. The Air Force will include Naval contributions in all strategic air plans and in the detailed estimates of over-all force requirements therefor."

Gen. Hoyt S. Vandenberg, Chief of Staff of the Air Force, and also a member of the Joint Chiefs of Staff, discussed the conference in a similar vein, saying, "I believe that this imposes on the Air Force the requirement not only to consider possible contributions of other services to Air Force functions but also to seek out aggressively such contributions when they will add to the effectiveness of the job that we are doing. I propose to be guided by that understanding. Each service, in my opinion, must do the same. I confidently expect that the Army and the Navy will seek our assistance wherever and whenever we can add to their effectiveness in carrying out their primary functions."

Military Air Transport Service. A tangible result during the year was the consolidation of the Air Transport Service (an Air Force agency) and the Naval Air Transport Service. The new organization, utilizing facilities and personnel of both the Air Force and the Navy and, at times, of the Marine Corps, operates directly under the Chief of Staff, U.S. Air Force. Maj. Gen. Laurence S. Kuter, an Air Force officer, was made commander of the new MATS, and Rear Admiral John P. Whitney, of the Navy, was selected to be the vice commander.

The new MATS is responsible for providing domestic and foreign scheduled air transportation for all the Departments of the National Military Establishment and other government agencies as authorized, together with performing certain feeder line service and non-scheduled operations (other than tactical), air evacuation of hospital patients, and other appropriate tasks as assigned. Toward the end of the year Secretary Forrestal announced that in its first four months of operation MATS produced 54 percent more airlift than was accomplished by the Naval and Air Force components in their best pre-merger month. This was achieved

by a two percent increase in transport C-54's, a four percent increase in transport personnel, and a slight decrease in total MATS personnel.

Military Sea Transport. In December, decision was announced to consolidate all military sea transport under the Navy. This action was taken upon recommendation of the Joint Chiefs of Staff. It means that the entire Army water transport service, comprising about 260 vessels, will be transferred to the control of the Department of the Navy, which already operates about 95 such ships in its own transport service. At the same time, Secretary Forrestal stated that the next logical step would be the consolidation of all land transport under the Army.

Recruiting Consolidation. It was also decreed that the recruiting facilities and services will be used jointly by all three Services. This step contemplates joint use of office space, consolidation of medical examining facilities, simplification and standardization of administrative forms, etc.

Legislative and Budgetary Procedures. Progress also was made in the intricate process of coordinating the legislative and budgetary procedures. Earlier, Secretary Forrestal had ordered that legislation proposed by one of the Departments could be sent to the Bureau of the Budget or to Congress only with the concurrence of the two other departments. Later, he appointed Maj. Gen. Wilton B. Persons Director of Legislative Liaison to direct the central agency of contact between the National Military Establishment and Congress. The Secretary ordered that all bills be forwarded through his office, where after clearance each will be assigned to one of the Departments or Boards to handle. Congress and the Bureau of the Budget were advised to address requests for comments to the Office of the Secretary of Defense rather than to one of the Departments as in the past.

The 1950 Budget prepared during the latter part of 1948 for submission to the 81st Congress marked the first time in the history of the Nation that a single coordinated budget had been formulated for all the Armed Services. It represented a stupendous task and a stride forward, for a co-ordinated budget must assume a co-ordinated plan of operations based on integrated military requirements.

Coordinated Procurement. The Munitions Board, one of the agencies within the National Military Establishment, has as one of its primary responsibilities the coordination of activities with regard to industrial matters, including procurement, production, and distribution plans. During the year it reported that more than 80 percent of the dollar value of all purchases by the NME, both in war and peace, has been assigned to single, joint, or collaborative purchase agencies. Food purchase for all the services is now the function of the Army, the Navy buys all the coal, photographic materials are procured by the Air Force, and so on.

Armed Forces Information School. As the result of recommendations made by a joint Army, Navy, and Air Force Committee, a single Armed Forces Information School was recognized for all. The Army Information School at Carlisle Barracks, Pa., became the Armed Forces Information School. The Air Force Information School at Craig Air Base, Ala., closed as of June 1, the students going thereafter to the new establishment. The Navy, which previously did not have a school of its own, now sends students to the joint school.

Civilian Components. The Board for Civilian Components, popularly known as the Gray Board from its chairman, Assistant Secretary of the Army Gor-

don Gray, submitted its report in August. The Board recommended that "the structure of the Reserve forces should be simplified and made common to the three services," thus carrying forward the principles of unification. However, its principal recommendation was that each service have only one Federal Reserve Force. To carry this out it recommended that the National Guard be taken from the States and combined with the Organized Reserves under the name of "The National Guard of the United States," completely under Federal control, and that the Air National Guard and the Air Reserve be combined under the name of "The United States Air Force Reserve," also a completely federalized organization. These recommendations aroused immediate and vigorous opposition of the leaders of the National Guard and the governors of various States. Subsequently, Secretary Forrestal recommended to President Truman that consolidation of the Air National Guard with the Air Reserve be effected.

Other recommendations of the Gray Board for the Reserves of all the Services included:

"The organization, administration, training and supply of the reserve forces of the three services should be completely integrated with the organization, administration, training and supply of the Regular Establishments under the direction of the respective Secretaries and Chiefs of Staff, or Chief of Naval Operations, and the Secretaries and Staffs of the three services should hold the same relation and responsibilities to the Reserve forces as they do to the Regular establishments.

"All organizational, administrative, training and supply functions of the Reserve forces should be handled by the staff sections which handle the same functions in the Regular services and no special organizational structure should be set up.

"The reserve forces of the three services should be fully administered and supplied through normal chains of command, administration and supply utilizing such minimum number of full time personnel in reserve force units as may be required.

"The Budget Staff of the Secretary of Defense should make periodic reports to the Secretary stating the emphasis placed on the Reserve forces in the Budgets of the respective services and setting forth any proposed changes or transfers in the obligation and utilization of funds provided.

"For the purpose of considering, recommending and reporting to the Secretaries of the Army, Navy, and Air Force on Reserve force policy matters, provision should be made in each Service for a policy committee at least half of the members of which shall be officers of the Reserve forces. From the membership of these three service committees there should be established a Joint Interservice Committee to consider, recommend and report to the Secretary of Defense on Reserve force policies and procedures of joint or common interest in the Reserve forces of all the services.

"All service boards authorized in connection with the promotion, discharge, appointment or retirement of Reserve force personnel should be composed of at least 50 percent nonregulars.

"For the duration of any future national emergency or war, members of the Reserve forces should be members of the respective Regular forces."

Medical and Hospital Services. Organization of an Ad Hoc Committee on Medical and Hospital Services of the Armed Forces was completed in January with Maj. Gen. Paul R. Hawley, a retired medical officer of the Army, as chairman. This committee worked throughout the year and some tangi-

ble results were already being shown. Greater interchange of hospital facilities between the various services was coming into evidence. Application of this principle in the Panama Canal Zone permitted the closing of two of the six hospitals there and led to better utilization of the medical staffs of the three services through the creation of a Panama Area Joint Medical Advisory Committee. The chairman of the Joint Advisory Committee serves as Medical Director on the staff of the Commander-in-Chief, Caribbean Command, and thus is in a position to obtain assignment of medical experts of any of the three services for special duty in any medical facility where their skills are needed temporarily. The utilization of the personnel of all three services on the Atlantic side of the Canal Zone was assigned to the Navy, while their hospitalization on the Pacific side was assigned to the Army. Indications pointed to further extension of such practices.

Uniform Code of Justice. In July Secretary Forrestal appointed another Ad Hoc Committee to prepare a "modern and uniform code of military justice for the Armed Services," with Professor Edmund Morris Morgan, Jr., of Harvard University, as chairman. It is expected that this committee will prepare for submission to the 81st Congress a code for the Army, Navy, and Air Force to supersede the Army's Articles of War and the Navy's Articles for the Government of the Navy.

Joint Use of Air Bases. Also in July Secretary Forrestal directed the Joint Chiefs of Staff to make a study to determine the feasibility of joint use of air bases by the Air Force and Naval aviation.

Hoover Commission. A further top-level study of the National Security Organization was that undertaken by a committee of the Commission on Organization of the Executive Branch of the Government, which was created by an Act of Congress approved by President Truman on July 7, 1947. Former President Herbert Hoover, chairman of the Commission, appointed Ferdinand Eberstadt, a New York investment banker, as chairman of the committee to study the defense structure with a group of retired Army, Navy, and Air Force officers as advisers on military questions.

In December the Eberstadt Committee made a comprehensive report to the Hoover Commission in which it expressed the belief that "the national security organization, established by the National Security Act of 1947, is, on the whole, soundly constructed, but is not yet working well." The committee announced that it had considered and rejected (subject to dissenting opinions by some of its members) the three major changes frequently suggested as necessary to improve the new organization: (1) A single Military Chief of Staff and General Staff over all three military services; (2) merger of the three military departments into a single department; and (3) merger of the Naval air arm with the Air Force.

Specifically the Committee recommended:

"Its investigations convinced the committee that there are six major areas or aspects in which improvement in the interest of greater efficiency and economy is both possible and necessary.

"They involve: (1) Strengthening central authority in the military establishment; (2) overhauling the military budget; (3) improving teamwork throughout the national security organization; (4) relating scientific research and development more closely to strategic planning; (5) expediting plans for civilian—including economic, industrial, and manpower—mobilization in case of war, and providing for continuous appraisal of

the effect of all national security programs on our national resources, both human and material; and (6) making adequate provision for—and against—new and unconventional means of warfare."

—LEROY WHITMAN

NATIONAL OPINION RESEARCH CENTER. An institution established in 1941 by the Field Foundation, Inc., of New York City, in association with the University of Denver, as the first nonprofit, non-commercial organization in the United States devoted to ascertaining public opinion and to devising and testing new methods of attitude and opinion research. Another purpose of the Center is to review and analyze the results of surveys made by other polling organizations, both in the United States and abroad. The Center's findings and findings of other polls in the United States and abroad are published in *Opinion News*, which is designed for the use of those who follow closely the trends of public opinion. In October, 1948, publication of *Opinion News* was suspended in order that changes in its scope, character, and sponsorship might be worked out.

The 1948 program of the Center, in addition to specific research for clients into attitudes of university alumni toward their universities, attitudes of public school teachers, medical practitioners, and people generally toward the use of live animals for medical research, attitudes of medical men toward various types of public medical service, included: (1) continued research on a grant from the Rockefeller Foundation on interviewer bias and the handling of the interview situation as sources of error in opinion data; (2) initiation of a three-year program of research financed by the Merrill Foundation for the Advancement of Financial Knowledge and done in cooperation with the Bureau of Business and Economic Research of the University of Illinois into the processes by which businessmen's opinions about the future are formed, changed, and incorporated into their policies and practices; and (3) initiation of a study of intergroup tensions with special reference to ethnic groups.

During 1948 also the Center, in cooperation with departments and other research units of the University of Chicago, began the development of an educational program for the training of advanced students in the field of communications and public opinion.

Director, Clyde W. Hart; Director of the NORC Denver affiliate (separately incorporated under the name of Opinion Research Center), Dr. Cahalen. Headquarters: University of Chicago, 5601 South Ellis Ave., Chicago 15, Ill. Denver affiliate: University of Denver, Denver 10, Colo. Eastern office: Paul B. Shentsley, 280 Madison Ave., New York 16, N.Y.

NATIONAL PARKS AND MONUMENTS. Increased public use of the national parks, national monuments, and other units of the national park system; the addition to the system of several important historical areas in the eastern part of the United States; Congressional authorization for the establishment of other important historical areas; and acquisition of land for the Everglades National Park in Florida were major developments of the year 1948.

Nearly 30 million persons visited the public reservations administered by the National Park Service during the year. Yellowstone National Park (Wyoming-Montana-Idaho), the world's oldest national park, attracted more than a million visitors, as did also Rocky Mountain National Park

(Colorado), Great Smoky Mountains National Park, (North Carolina-Tennessee), Blue Ridge Parkway (Virginia-North Carolina), and the Lincoln Memorial in the Nation's capital. Lake Mead Recreational Area (Arizona-Nevada) had nearly 1½ million visitors; and more than 2 million persons took advantage of the facilities available at Lake Texoma Recreational Area (Texas-Oklahoma).

Three historical areas were added to the national park system in 1948: Saratoga National Historical Park, lying west of the Hudson about 25 miles north of Albany, N.Y., and containing the site of the battle which marked the turning point of the Revolutionary War; Fort Sumter National Monument in Charleston Harbor, S.C., site of the opening military engagement of the War Between the States; and Hampton National Historic Site, near Towson, Md., containing a fine example of a Georgian mansion erected during the latter part of the 18th century. The Hampton property, designated as a national historic site following its acquisition by the Federal Government with funds provided by the Avalon Foundation, is maintained by the Society for the Preservation of Maryland Antiquities.

Laws were enacted in 1948 for the establishment of three other historical areas after certain conditions have been met. Most significant is the law authorizing establishment of Independence National Historical Park to include certain historic structures and properties in Philadelphia, Pa., associated with the American Revolution and the founding and growth of the United States. This law authorizes the appropriation by Congress of \$4,435,000 for acquisition of the properties involved and the appointment by the Secretary of the Interior of an advisory commission of not to exceed 11 members.

The other two historical areas authorized for establishment in 1948 are the DeSoto National Memorial in the vicinity of Bradenton and Tampa, Fla., to commemorate the discoveries of this famous explorer, and Fort Vancouver National Monument, in the State of Washington, to preserve the site of the original Hudson's Bay Company stockade.

Maintenance of two areas under National Park Service jurisdiction—Atlanta Campaign National Historic Site, marking the significant points on the route of Sherman's march, and New Echota Marker National Memorial, containing the site of the last capital of the Cherokee Indians in Georgia—was taken over by the Georgia Department of State Parks. Protection of another unit of the national park system—Devil Postpile National Monument, Calif., containing a series of symmetrical blue-gray columns believed to be a remnant of a basaltic lava flow—was assumed by the Forest Service of the U.S. Department of Agriculture. The monument, approximately 800 acres in extent, is within the Sierra National Forest. All three of these areas, however, still are units of the national park system.

At the close of 1948 the system had a total of 180 units, classified as follows: national parks, 28; national monuments, 86; national historical, military, and memorial parks, 17; national battlefield parks and sites, 8; national historic sites, memorials, and cemeteries, 31; national parkways, 3; recreational areas, 4; recreational demonstration areas, 2; and the National Capital Parks which are considered as one unit. The national park system covers approximately 23,690,000 acres, of which approximately 813,000 acres are not Federally owned.

Approximately 135,000 acres were purchased in 1948 from the Model Land Company for the Everglades National Park in southern Florida. This ac-

quisition was the third to be made from the \$2 million fund given to the Federal Government for the purpose by the State of Florida when the park was established in June, 1947. This sub-tropical wilderness park has extensive water-courses, saw-grass prairies, mangrove forests, and a variety of birds and animals.

Among other noteworthy developments of the year were the appropriation by the Congress of \$500,000 for the improvement of the Statue of Liberty, universal symbol of freedom and democracy, on Bedloe's Island at the entrance of New York Harbor; completion of a comprehensive survey of concession operations in National Park Service areas by an advisory group appointed by the Secretary of the Interior, and approval by him of a new national park concessions policy; appointment of Bernard DeVoto, author and historian, to membership on the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments; and issuance by the U.S. Travel Division of the National Park Service of a monthly magazine entitled *Travel USA*.

A policy set up early in 1948 for the Travel Division provides that its activities shall be supplementary to those of established State and private travel organizations, not in competition with or a duplication of such programs.

As in past years, the Service had the aid of conservationists throughout the Nation in opposing pressures for the cutting of forests, the grazing of meadows, the damming of streams and lakes, and other destructive uses of the national parks.

—NEWTON B. DRURY

NATIONAL RESEARCH COUNCIL. The Council was founded by the National Academy of Sciences in 1916, and was established on a permanent basis on May 11, 1918, by Executive Order of President Wilson, in order to promote research in the mathematical, physical, and biological sciences, and in the application of these sciences to engineering, agriculture, medicine, and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare. The membership of the Council, appointed by the President of the National Academy of Sciences, is composed largely of representatives of approximately ninety of the major scientific and technical societies of the country, together with representatives of certain other research organizations, representatives of government scientific bureaus, and a limited number of members at large. Serving on Committees of the Council are approximately 1,800 outstanding scientists.

The Council does not maintain scientific laboratories but functions through sponsorship of conferences, technical committees, surveys, scientific publications, and administration of funds for research projects and fellowships. As an operating agency of the National Academy of Sciences (q.v.), the Council is called upon frequently by agencies of the U.S. Government for advice and assistance in connection with many problems of research.

Council publications include a series of Bulletins, Reprints, and Circulars. Council officers: Detlev W. Bronk, Chairman; Raymond L. Zwemer, Executive Secretary; G. D. Meid, Business Manager. Headquarters: 2101 Constitution Ave., Washington 25, D.C.

NATIONAL RESEARCH COUNCIL (Canada). Founded in 1916 to have charge of all matters affecting scientific and industrial research in Canada which may

be assigned to it by the Committee of the Privy Council on Scientific and Industrial Research.

In October, 1948, the Council's staff of 2,670, including those employed in several laboratory units operated outside of Ottawa, was grouped in laboratory divisions of applied biology, applied chemistry, mechanical engineering, physics, radio and electrical engineering, atomic energy, information services, building research, and medical research. Outside activities in 1948-49 included a research program of 217 grants for work under the direction of committees, including medical research in various hospital centers, the granting of 226 scholarships for postgraduate research, and the awarding of 122 grants in aid to responsible workers for special investigations.

A Crown company, the Canadian Patents and Development, Ltd., has been formed to make available to industry through licensing arrangements, inventions, new processes, and improvements developed by scientific workers of the Council. Membership of the Council: 20. Officers: C. J. Mackenzie, President; S. P. Eagleson, General Secretary. Headquarters: National Research Building, Ottawa, Canada.

NATIONAL SECURITY COUNCIL. The Council was established, pursuant to Public Law 253, title I, section 101, Eightieth Congress, July 26, 1947, to advise the President with respect to the integration of domestic, foreign, and military policies relating to the national security so as to enable the military services and the other departments and agencies of the Government to cooperate more effectively in matters involving the national security. In addition to performing such other functions as the President may direct, it is the duty of the Council, subject to the direction of the President: (1) to assess and appraise the objectives, commitments, and risks of the United States in relation to our actual and potential military power, in the interest of national security, for the purpose of making recommendations to the President in connection therewith; and (2) to consider policies on matters of common interest to the departments and agencies of the Government concerned with the national security, and to make recommendations to the President in connection therewith.

Under the direction of the Council is a Central Intelligence Agency headed by a Director of Central Intelligence.

The Council is composed of the President, the Secretaries of State, Defense, the Army, the Navy, and the Air Force, the Chairman of the National Security Resources Board, and such of the following officers as the President may designate from time to time: The Secretaries of the executive departments, the Chairman of the Munitions Board, and the Chairman of the Research and Development Board. The Council is assisted by a Staff headed by a civilian executive secretary appointed by the President.

NATIONAL SECURITY RESOURCES BOARD. This Board was created by the United States National Security Act of 1947 to "advise the President concerning the coordination of military, industrial, and civilian mobilization." It comprises a Chairman, appointed from civilian life by the President and confirmed by the U.S. Senate, and such other heads of Government departments or agencies as the President may designate. Acting chairman: John R. Steelman, who succeeded Arthur M. Hill on Dec. 15, 1948. Board members include the Secretaries of State, Treasury, Defense, Interior, Agriculture,

Commerce and Labor. The chairman of the Board is also *ex officio* member of National Security Council.

NSRB is the chief civilian agency charged with the duty of planning for most effective mobilization and use of nation's entire resources—industrial, material and human—in the event of an emergency. During 1948 the Board issued staff studies on electric power, communications, machine tools, scrap iron, and dispersion of industry. Other studies were nearing completion, and an over-all report on mobilization policies and programs was expected to be submitted to the President early in 1949.

NAURU (Pleasant) ISLAND. An atoll in the mid-Pacific (166° E.; 26 miles south of the equator). Formerly a mandate of the League of Nations, Nauru became (Oct. 22, 1947) a United Nations Trust Territory under the joint administration of Australia, Great Britain, and New Zealand. Australia continued to administer the island. Area: 8 square miles. Population (1947): 2,794. Phosphate is the chief product, a total of 102,400 tons being exported in 1946-47. Administrator: Mark Ridgway.

NAVAL PROGRESS. Advancement of the United States Navy during 1948 and an indication of its future development result from decisions reached by the Joint Chiefs of Staff at conferences in Key West, Fla., and Newport, R.I. (see NATIONAL MILITARY ESTABLISHMENT, MILITARY PROGRESS). At these sessions, it was agreed that the Navy should have exclusive responsibility in the field of anti-submarine warfare, now of increased significance as a result of improved undersea craft, equipped with schnorkel breathing devices. Additionally, the JCS said that just as the Air Force was to assist the Navy in combating submarines, so the Navy was given the collateral task of aiding the Air Force in the latter's responsibility for conduct of strategic air warfare.

Because of its importance in the progress of the U.S. Navy, the text of Section V of the JCS agreement is presented here in its entirety:

"Within the Department of the Navy, assigned forces include the entire operating forces of the United States Navy, including naval aviation and the U.S. Marine Corps. These forces are organized, trained, and equipped primarily for prompt and sustained combat operations at sea, and for air and land operations incident thereto. Of the three major Services, the Navy has primary interest in all operations at sea, except in those operations otherwise assigned herein.

A. Primary Functions: 1. To organize, train, and equip Navy and Marine Forces for the conduct of prompt and sustained combat operations at sea, including operations of sea based aircraft and their land based naval air components. Specifically: (a) To seek out and destroy enemy naval forces and to suppress enemy sea commerce. (b) To gain and maintain general sea supremacy. (c) To control vital sea areas and to protect vital sea lines of communication. (d) To establish and maintain local superiority (including air) in an area of naval operations. (e) To seize and defend advanced naval bases and to conduct such land operations as may be essential to the prosecution of a naval campaign.

2. To conduct air operations as necessary for the accomplishment of objectives in a naval campaign.

3. To organize and equip, in coordination with the other Services, and to provide Naval forces, in-

cluding Naval close air support forces, for the conduct of joint amphibious operations, and to be responsible for the amphibious training of all forces as assigned for joint amphibious operations in accordance with the policies and doctrines of the Joint Chiefs of Staff.

4. To develop, in coordination with the other Services, the doctrines, procedures, and equipment of naval forces for amphibious operations, and the doctrines and procedures for joint amphibious operations.

5. To furnish adequate, timely, and reliable intelligence for the Navy and Marine Corps.

6. To be responsible for naval reconnaissance, anti-submarine warfare, the protection of shipping and for mine laying, including the air aspects thereof.

7. To provide air transport essential for naval operations.

8. To provide sea based air defense and the sea based means for coordinating control for defense against air attack, coordinating with the other Services in matters of joint concern.

9. To provide naval (including naval air) forces as required for the defense of the United States against air attack, in accordance with joint doctrines and procedures approved by the JCS.

10. To furnish aerial photography as necessary for naval and Marine Corps operations.

11. To maintain the Marine Corps, which shall include land combat and service forces and such aviation as may be organic therein. Its specific functions are: (a) To provide Fleet Marine Forces of combined arms, together with supporting air components for service with the Fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. These functions do not contemplate the creation of a second land army. (b) To provide detachments and organizations for service on armed vessels of the Navy and security detachments for the protection of Naval property at naval stations and bases. (c) To develop, in coordination with the Army, Navy, and Air Force the tactics, technique, and equipment employed by landing forces in amphibious operations. The Marine Corps shall have primary interest in the development of those landing force tactics, technique, and equipment which are of common interest to the Army and Marine Corps. (d) To train and equip, as required, Marine forces for airborne operations, in coordination with the Army, Navy, and Air Force in accordance with policies and doctrines of the JCS. (e) To develop, in coordination with the Army, Navy, and Air Force doctrines, procedures, and equipment of interest to the Marine Corps for airborne operations and not provided for in Section IV, Par. A3.

12. To provide forces, as directed by proper authority for the establishment of military government, pending transfer of this responsibility to other authority.

B. Collateral Functions: The forces developed and trained to perform the primary functions set forth above shall be employed to support and supplement the other Services in carrying out their primary functions, where and whenever such participation will result in increased effectiveness and will contribute to the accomplishment of the overall military objectives. The JCS member of the Service having primary responsibility for a function shall be the agent of the JCS to present to that body the requirements for and plans for the employment of all forces to carry out the function. He shall also be responsible for presenting to the

JCS for final decision any disagreement within the field of his primary responsibility which has not been resolved. This shall not be construed to prevent any member of the JCS from presenting unilaterally any issue of disagreement with another Service. Certain specific collateral functions of the Navy and Marine Corps are:

1. To interdict enemy land and air power and communications through operation at sea.

2. To conduct close air support for land operations.

3. To furnish aerial photography for cartographic purposes.

4. To be prepared to participate in the over-all air effort as directed by the JCS."

Translated into terms of ships and men, these decisions mean vigorous emphasis upon development of improved submarines and simultaneously of "hunter-killer" task units to destroy enemy undersea marauders and the training of personnel in new concepts of naval warfare. Because the battleship has little purpose in a submarine fight, its importance has so diminished that only the U.S.S. *Missouri*, aboard whose decks the Japanese surrendered in August, 1945, remains of the dreadnaughts in active service. Replacing the battleship as the capital ship of the Navy is the aircraft carrier. During World War II, naval aircraft flying from flattops proved their effectiveness against submarines in the Battle of the Atlantic. Additionally, because the Navy has been given an ancillary role in strategic air warfare, its plans for a 65,000-ton aircraft carrier—storm center of controversy—gain new significance.

Navy Commanders. Directing progress of the Navy during 1948 were Secretary of the Navy, John L. Sullivan; Under Secretary of the Navy for Air, John N. Brown; Assistant Secretary of the Navy, Mark E. Andrews; Chief of Naval Operations, Adm. Louis E. Denfeld; and Vice Chief of Naval Operations, Vice Adm. A. W. Radford.

Other top admirals include Deputy Chief of Naval Operations (Administration), Rear Adm. Charles Wellborn, Jr.; DCNO (Air), Vice Adm. John D. Price; DCNO (Logistics), Vice Adm. Robert P. Carney; DCNO (Operations), Vice Adm. Arthur D. Struble; DCNO (personnel), Vice Adm. William M. Fechter; and Chief of General Planning Group, Rear Adm. Maurice E. Curtis.

The Naval Establishment. The Department of the Navy, alternatively referred to as the Naval Establishment, consists of three principal parts: Operating Forces, Navy Department, and Shore Establishment. The Operating Forces are composed of the Atlantic Fleet, under command of Adm. W. H. P. Blandy, and the Pacific Fleet, commanded by Adm. DeWitt C. Ramsey, the former fleet with a subsidiary force under Adm. Richard L. Connolly in the Eastern Atlantic and Mediterranean and the latter with a secondary group of ships in the Far East, commanded by Vice Adm. Russell S. Berkey. The Navy Department, located in Washington, D.C., is the executive part of the Naval Establishment and is responsible for development of overall policy, command, administrative and logistic direction of both the Operating Forces and the Shore Establishment. Marine Corps Headquarters are under the Navy Department. Field activities of the Navy Department are placed under the Shore Establishment and include activities relating to maintaining, supplying, equipping, repairing, overhauling, and rendering similar services to the Operating Forces.

It is upon the Operating Forces, roaming the seas of the world, that rests the broad responsibility

ity of fulfilling the Navy's role in National Defense and of supporting fundamental national policies and interests. Therefore, both the Navy Department and Shore Establishment exist for the purpose of supporting the Operating Forces.

Atlantic and Pacific Fleets. To achieve its standing objective—control of the seas—the Navy divides among its Atlantic and Pacific Fleets a total of 776 active combatant and non-combatant ships. There are one battleship, 11 Midway Class carriers, 3 light carriers, 7 escort carriers, 10 heavy cruisers, 15 light cruisers, 6 anti-aircraft cruisers, 147 destroyers, 13 destroyer escorts, 80 submarines, 54 mine vessels, 50 patrol vessels, 151 amphibious and 228 auxiliary craft. Relegated to the "mothball" or "zipper" fleet and ready for service in event of emergency are 655 combatant and 1,215 non-combatant ships, a total reserve of 1,870 vessels. At the time of the Japanese surrender, the Navy had approximately 1,300 combatant ships and with auxiliary vessels, but excluding small landing craft, the total was 11,000 ships.

Each of the Navy's fleets contains a carrier striking force, an amphibious force, a Fleet Marine Force, a submarine force, units required for naval reconnaissance and anti-submarine warfare, and the necessary carrier air groups and Fleet Air Wings. The Atlantic Fleet, for example, has in active status 9 carriers, 4 escort carriers, 16 cruisers, 83 destroyers, 45 submarines, and 8 destroyer escorts, plus amphibious lift for two Marine Corps Regimental Combat Teams.

From the main fleets, naval forces rotate on outpost duty in the Eastern Atlantic and Mediterranean, in the Western Pacific and Far East. Deployment of these vessels to strategic areas is explained by Admiral Denfeld as part of "our strategy for peace." Thus, the Navy maintains a carrier and supporting ships in the Mediterranean, and cruising in the waters off China is a task group built around two carriers.

Carrier Task Group. Described by Admiral Denfeld as the "core of the Navy's striking power," is the fast carrier task group. Steaming at a speed of 25 knots or faster, its ships can throw up 6,000 shells per second or 200 tons of explosive metal per minute. Navy experts maintain that per square foot of target area no other installation has comparable defense to a carrier. Because of its mobility, the carrier task group can achieve tactical surprise, striking a target at Point X one day and then hitting Y with equal force 600 miles away the next day. Admiral Denfeld has said that "immediate and effective use of sea-air power may well be a decisive factor in a war's initial stages."

The fast carrier task group may be pictured as three series of enormous circles, with each circle representing a ring of ships or planes. At the core of the inner circle typically are four aircraft carriers, separated from each other by more than two miles. Aboard each carrier are approximately 2,000 men. Each carrier has its own fighter, dive bomber, and torpedo planes and varied shops for on-the-spot aircraft maintenance and repair. Surrounding the carriers is a ring of heavy ships, usually at least four or five cruisers, providing a tremendous anti-aircraft fire potential. Circling far outside are about 25 destroyers to protect the task group from submarines. The group is spread so widely that destroyers on the opposite flanks often are out of sight of each other. During World War II, such carrier groups dominated the air in actions across the Pacific.

The Navy's Super Carrier. Given an auxiliary role in the mounting of a strategic air assault against an

enemy, and claiming the carrier's ability to hit initially with surprise and force, the Navy sped up in 1948 with final plans for the keel-laying (in 1949) of the 65,000-ton flush-deck aircraft carrier U.S.S. *United States* to be built by the New York Shipbuilding and Drydock Company at an estimated cost of \$124 million. This is the CVA-58, and the result of 78 different designs produced since October, 1945, the carrier will be 1,030 feet long, 10 feet longer at the waterline than the SS *Normandie*, and 130 feet longer than the U.S.S. *Midway*, currently the Navy's largest vessel. Waterline beam of the new carrier, which will require approximately four years to build, will be placed on "priority order," will be 130 feet wide, making her the seventh Navy ship too wide to pass through the Panama Canal. Maximum fixed width above the waterline is 190 feet, but temporary structures hinged in place will make her 255 feet wide. The carrier will have an approximate speed of 33 knots and will have a complement of 4,000 officers and men.

The ship will have no island structure to impede landings and takeoffs; her flag and ship bridge or operation and control centers will be telescopic planes weighing as much as 100,000 pounds which will be able to take off from the carrier and land on its reinforced deck. The long-range future of the carrier is reflected in the fact that late in 1948 the Navy was conducting tests with the 22,000-pound Martin Mauler, one of the heaviest airplanes designed solely for carrier duty. The CVA-58 will be able to handle planes weighing five times as much as the Mauler.

Largest Blimp Also. To further its anti-submarine program, the Navy awarded to the Goodyear Aircraft Corporation a contract for construction of a type "N" blimp, nearly twice the size of the blimps used for anti-submarine patrol during World War II. The patrol airship will be 324 feet long, 71 feet wide, and 92 feet high at the tail point. The double-deck 87-foot car under the blimp will house crew, controls and the two horsepower air-cooled engines. Normal crew will be 14 officers and men. Helium capacity will be 825,000 cubic feet.

Ship Construction. Concurrently with construction of the gigantic carrier and "over-stuffed" blimp the Navy is strengthening the flight decks and increasing the catapult and elevator capacity of two 600-ton carriers, the U.S.S. *Essex* and U.S.S. *Wasp*. Ultimately all of the *Essex* Class carriers will be modified to extend greatly the range and striking power of the fast carrier task forces.

In addition to the carrier phase of the construction and conversion program, the Navy is developing high-speed, deep-submergence submarine anti-submarine vessels, and ships equipped for polar and picket service. With regard to ship construction, Vice Adm. Earle E. Mills, Chief of Bureau of Ships, has described the Navy's strategic position as being "unique" in that "we pursue with equal vigor the perfection of the weapons and devices utilized in both phases of undersea warfare. In the event of emergency, we must be prepared to launch a marine offensive and, at the same time, repel a submarine offensive directed towards our lines."

The danger of such a submarine offensive is heightened as a result of the German development during World War II, with subsequent improvement by the United States and Russia, of the schnorkel device. This is a pair of breathing tubes which admit air from above the water's surface

permit undersea charging of submarine batteries and which expel exhaust gases. As a result, new submarines can stay under water indefinitely and can travel at greater speeds than ever before.

In addition to the CVA-58, the Navy's postwar construction program includes 2 anti-submarine cruisers, 4 destroyers, 6 high-speed submarines, and 3 anti-submarine submarines. Simultaneously with construction of the 16 new vessels, the Navy will convert the following ships: 2 *Essex* Class fleet carriers to carry newer, heavier planes; 2 light carriers for anti-submarine warfare; twelve 2,100-ton destroyers to destroyer escorts; six 2,200-ton destroyers for antisubmarine warfare; 2 destroyer escorts to destroyer escort pickets; 2 submarines to troop-carrying submarines; one submarine to a cargo-carrying submarine; 2 submarines for polar picket service; one submarine to submarine oiler; one cargo ship for polar service; and 2 landing ships dock for polar service. In a year when relations between the United States and Russia were strained, the emphasis upon ships for polar duty is not surprising.

Placed in commission during the year was the U.S.S. *Des Moines*, the world's most powerful cruiser, displacing 17,000 tons and equipped with automatic, rapid-fire batteries of 8-inch guns—its weapons fire four times faster than any guns of the same or larger caliber. The ship's armament includes 12 twin-mount five-inch guns, 20 twin-mount three-inch anti-aircraft guns, and twelve 20-mm machine guns. To divert funds for more critical needs and to await new research studies, the Navy suspended work on the guided-missile bombardment ships, the U.S.S. *Kentucky* and U.S.S. *Hawaii*. Shelved were the battleships U.S.S. *New Jersey*, *Wisconsin* and *Iowa*, while the U.S.S. *Norton Sound*, a seaplane tender, became the first ship specially equipped to fire 14-ton rockets.

Naval Air Program. Side by side with acceleration of its ship construction, the Navy has set its sights on realization of an air arm of 14,500 planes by July 1, 1949. Originally, defense planning called for completion of this expansion by 1954. To reach the 14,500 figure, of which about 10,000 planes will be ready for flight assignments at any given time, the Navy will withdraw 3,000 World War II type planes from storage. During 1949, 1,165 new planes will be built for the Navy, of which 576 will be jet fighters, 454 attack aircraft, 82 patrol planes, 16 transports, and 37 helicopters.

Exercises aboard Navy carriers, particularly the U.S.S. *Boxer* and U.S.S. *Saipan*, proved that jet aircraft are practical for carrier operations and the Navy has ordered complete transition to jet planes for carriers "as rapidly as possible." With regard to air transport, Navy planes were ordered to Europe to assist the Air Force in "Operation Vittles," the supplying of blockaded Berlin by airlift. The huge four-engined Lockheed XR60 *Constitution*, a 180-passenger, 92-ton airplane, successfully completed initial flights. The Navy's JRM-2 *Caroline Mars*, largest flying boat in active service, set a new record when it flew non-stop from Honolulu to Chicago, the 4,200-mile flight being the longest ever made by a seaplane. See AVIATION, MILITARY.

Naval Research. To keep ahead of the rest of the world in weapons and techniques, the Navy is devoting particular attention to research. It is reported that more than 25 percent of all research activities is now being devoted to aspects of submarine and anti-submarine warfare. Navy research contracts, supervised by Rear Adm. T. A. Solberg, Chief of Naval Research, run the gamut of scientific fields—chemistry, physics, medical sciences,

nuclear physics, mathematics, fluid mechanics, geophysics, mechanics, and materials. Among prominent successes of naval research are: achievement of an air speed of Mach number 5.18, or 5.18 times the speed of sound, in the captured and modernized German supersonic wind tunnels now at the Naval Ordnance Laboratory, White Oak, Md.; successful completion of sustained controlled flights by pilotless aircraft powered by ram-jet engines at the Naval Air Missile Testing Center, Point Mugu, Cal.; and the disclosure that there are available unmanned, remote-control craft which can be loaded to capacity with explosives and are capable of being dispatched to demolish underwater beach defenses and of going ashore to blast beachhead defenses. In this program, called "Project Stinger," the Navy readied during World War II drone craft, ranging in size from huge cargo ships to small amphibious sealds for critical amphibious missions.

Marine Corps. Responsible for the seizure and defense of advanced naval bases, the Navy directs the activities of the battle-famed Marine Corps, authorized a strength of 108,200 officers and men. Appropriations permit a strength of 92,000, and late in 1948 actual strength was 7,017 officers and 76,196 enlisted personnel, plus 2,216 one-year enlistees; a total of 85,425. Of this number, more than 60 percent is assigned to the Operating Forces, principal combat elements of which are the Fleet Marine Forces, one with the Atlantic Fleet and one with the Pacific Fleet.

The Fleet Marine Force, Atlantic, is presently deployed with Force Headquarters at Norfolk, Va.; Second Division Headquarters and three battalion teams are at Camp Lejeune, N.C., and the equivalent of one battalion landing team is in the Mediterranean. Aviation and service elements of the Force are located at Cherry Point, N.C., and at Camp Lejeune.

Units of the FMF, Pacific, are more widely deployed, with Force Headquarters on Oahu, Hawaii; First Division Headquarters and two battalion landing teams at Camp Pendleton, Cal.; two battalion landing teams at Guam under a provisional brigade headquarters, and other forces at Tsingtao, China, under a provisional force headquarters. Aviation units are distributed from the West Coast to China.

Navy Personnel Strength. In addition to the Marine Corps, the Navy is permitted by Public Law 759 to reach a strength of 490,000, of which 50,000 may be officers, 410,000 enlisted personnel, and 30,000 one-year enlistees. Actual strength on Nov. 30, 1948, was 46,010 officers, 375,125 enlisted men, and 8,782 one-year enlistees; a total of 429,917. A nautical precedent was established when women were commissioned as Regular officers in the Navy and Marine Corps. The Women's Armed Service Act permits the Navy 500 officers, 20 warrant officers and 6,000 enlisted women in the next two years. Present strength of the WAVES is 431 officers and 1,710 enlisted women. The Marine Corps is authorized 110 commissioned women officers and warrant officers and 1,000 enlistees during the next two years.

Naval Reserve. For the first time in history, the peacetime strength of the Naval Reserve passed the 1 million mark. Assigned to 764 activated surface and submarine divisions and 23 Naval Reserve air stations on October 31, were 20,784 officers and 161,913 enlisted personnel of the Organized Reserve, 78 percent of the quota of 233,012. These officers and enlisted men attend weekly drill sessions and take annual training cruises. Some ships

are manned entirely by Reservists on the summer cruises. The Volunteer Reserve, whose members are not organized into units but who are qualified or partially qualified for prescribed mobilization assignments, includes 283,132 officers and 560,228 enlistees. The Marine Corps Reserve has 2,790 officers and 34,906 enlistees in the MRC, and 24,758 officers and 55,355 enlistees in the VRC, an overall total of 117,809 as of September 30.

Foreign Navies. Australia: Important additions are the 14,000-ton carriers, *Sydney* and *Melbourne*, the latter to be commissioned in 1949.

Belgium: Added to the fleet of 2 despatch vessels, 8 minesweepers, 2 rapid torpedo vedettes, and a former British boom defense vessel was the 1,430-ton American frigate, *Sheboygan*, renamed the *Lt. V. Billel*.

Canada: The light carrier H.M.C.S. *Magnificent* was commissioned in April and the H.M. *Warrior* was returned to England.

China: In addition to American vessels, including destroyer escorts, the Chinese obtained the light cruiser *Aurora* and the destroyer *Mendip* from England. The U.S. gave China 126 vessels under the ECA program, mostly landing craft.

France: Construction was continued on the 16,700-ton aircraft carrier, PA-23; the *Jean Bart*, bombed during the war, was being completed to replace the *Richelieu*.

Great Britain: The largest sea exercises since the war were held during the summer. The famous battleship, *Queen Elizabeth*, was decommissioned. The reserve fleet included 65 destroyers, 136 frigates, 2 monitors, 31 submarines, 51 minelayers and 8 fast minelayers. The fleet includes 4 battleships, 3 fleet carriers, 5 light fleet carriers, 17 cruisers, 34 submarines, 52 destroyers, and 43 frigates in active commission.

India: The cruiser *Achilles* was transferred from the British Navy to the Royal Indian Navy and was renamed the H.M.I.S. *Delhi*.

Italy: Apportionment of ships of the Italian Navy under terms of the peace treaty is as follows: Russia, 27 warships; France, three 3,362-ton cruisers and a light "tropical cruiser," 4 destroyers, 2 submarines, 6 torpedo ships, and 27 auxiliaries; Great Britain and the United States renounced their allotments and some of the total of 65 warships and 62 auxiliaries went to Yugoslavia, Greece, and Albania.

Japan: Scrapping by the U.S. Navy of the 14,000-ton cruiser *Tone* closed the ledger on Japan's large combat vessels, marking destruction of 34 ships, totaling more than 475,830 tons since January, 1946.

Netherlands: To succeed the *Karen Doorman*, returned to England, the 31,190-ton, 25-knot ex-British carrier H.M.S. *Venerable* was added, while 2 cruisers and 8 destroyers were to be added to the cruisers *Tromp* and *Jacob Van Heemskerck*. Eight submarines also are in service.

Russia: Detailed data has not been revealed officially. It is reported, however, that the former German aircraft carrier, *Graf Zeppelin*, slated for destruction under an Anglo-American-Russian naval agreement, is in "undetermined" status. Reportedly also recently completed are 2 cruisers and several destroyers. However, naval authorities believe that the real potency of the Russian Navy is in its submarines. It is estimated that the Russians have more than 250 submarines, completed or building, many of them equipped with the schnorkel device and with other improvements made by German submarine experts now assisting the Russians. Return of 81 American ships lend-leased to

Russia during the war was promised late in 1948, including the cruiser *Milwaukee*.

—DANIEL Z. HENKIN

NAVAL RESEARCH. Office of. The Office of Naval Research was created by Public Law 588, signed by the President Aug. 1, 1946. To it were transferred all functions, personnel, property and contracts of the predecessor agency, the Office of Research and Inventions, established by directive of the Secretary of the Navy in May, 1945.

It is charged with the duties of encouraging, promoting, planning, initiating, and coordinating naval research, and conducting naval research in augmentation of and in conjunction with the research and development conducted by the respective bureaus and other agencies and offices of the Navy Department. Patents, inventions, trademarks, copyrights, and royalty payments matters are also under the supervision and control of the Office.

It is headed by the Chief of Naval Research (Rear Admiral Thorvald A. Solberg, July, 1948) appointed by the President and confirmed by the Senate.

The Office of Naval Research is composed of three major subdivisions in Washington and six branch offices located in New York City, Boston, Chicago, San Francisco, Los Angeles, and London, England. The Naval Research Laboratory, at Anacostia, D.C., the Special Devices Center at Port Washington, Long Island, N.Y., and the Underwater Sound Reference Laboratory at Orlando, Fla., are field activities under its direction.

Basic research is procured under contract from university, industrial, and government laboratories. There are currently 355 contractors conducting 1,122 projects. Approximately 75 percent of the contracts are with universities and non-profit institutions.

Research programs are now under way in the following physical sciences: nuclear physics, physics, chemistry, electronics, mechanics and materials, geophysics, fluid mechanics, and mathematics. Research in the Medical Sciences includes: physiology, biochemistry, microbiology, psychophysiology, psychology, human ecology, biophysics, and dentistry. Naval Sciences covered are undersea, amphibious and air warfare, power, and armament.

Considerable progress has been made in the second phase of ONR's responsibility for research, namely, the bringing of results to direct application to Navy needs. The program at the Naval Research Laboratory has increased emphasis on basic and applied research. Important contributions have been made and a high standard of accomplishment maintained in carrying developments from the research stage to application. The Special Devices Center emphasizes the development of synthetic training devices for a number of applications, and has become a unique establishment for consideration of the highly important field of human engineering. This field recognizes the necessity of considering the inter-relation between man and the machine or weapon he operates or uses.

In addition to active research programs, ONR during the past year began the development of a technique of scientific analysis for research and development programs known as "program research." Program research is the detailed study and analysis of all scientific fields bearing on the achievement of a stated naval operational objective. It involves reducing the objective to its major components, and then evaluating all scientific fields which bear on each of the components. In this process, gaps and bottlenecks will become easily

apparent. Such analyses will help provide the Chief of Naval Operations and the Material Bureau with factual and quantitative bases for use in planning their research and development programs.

NAVY, Department of the. See *The Naval Establishment* under NAVAL PROGRESS.

NAZARENE, Church of the. A holiness group organized in Chicago, in 1907, and emphasizing the doctrine of entire sanctification. Its 4,160 ministers serve 3,390 churches with 217,106 members in the United States, Canada, British Isles, and Australia. In addition, there are about 25,000 members or foreign mission fields under the care of 190 missionaries. Eight educational institutions have an enrollment of 4,774 students while 422,832 are enrolled in Sunday schools. The 1948 income from contributions was \$22,096,555; the value of church property increased to \$56,935,285. A Mid-Century Crusade for Souls with a goal of 1,000 new churches within four years was launched by the General Assembly which met in St. Louis, Mo., in June, 1948. Headquarters: 2923 Troost Ave., Kansas City, Mo.

NEBRASKA. A west north central State. Area: 77,510 sq. mi. Population: (July 1, 1948) 1,301,000, compared with (1940 census) 3,784,664. Chief cities: Lincoln (capital), 81,984 inhabitants in 1940; Omaha, 223,844. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$57,853,000; total expenditure, \$60,601,000.

Elections. While the 6 electoral votes went to Dewey, his popular majority over Truman was only about half as large as in 1944. Governor Val Peterson, Republican, was reelected for another term. In Congressional races, Kenneth S. Wherry, Republican, was reelected to the Senate, but the Republicans won only 3 of the 4 House seats for a loss of one. Other State officials elected were: Lieutenant Governor—Charles J. Warner; Secretary of State—Frank Marsh; Attorney General—James H. Anderson; Auditor—Ray C. Johnson; Treasurer—Edward Gillette; Superintendent of Public Instruction—Wayne O. Reed.

Officers, 1948. Governor, Val Peterson; Lieut. Governor, Robert B. Crosby; Secretary of State, Frank Marsh; Attorney General, Walter R. Johnson; State Treasurer, Edward Gillette; State Auditor, Ray C. Johnson; Superintendent of Schools, Wayne O. Reed.

NECROLOGY. The following is a list of notable persons who died during the year 1948.

Achron, Isidor (b. Warsaw, Poland, Nov. 24, 1892—d. New York, N.Y., May 12, 1948). Composer, pianist, and accompanist for Heifetz, 1923-33. Made New York debut at Town Hall, 1923; his last New York recital was in 1946 when he played several of his own works.

Adalbert Ferdinand Berengar Victor, Prince of Prussia (b. Potsdam, Germany, July 14, 1884—d. Montreux, Switzerland, Sept. 22, 1948). Naval officer and third son of the late Kaiser Wilhelm II. Since 1939, he had lived with his family in Switzerland under the name of Count von Lingen.

Alexander, Edward Albert (b. Georgetown, S.C., Jan. 30, 1873—d. New York, N.Y., Dec. 17, 1948). Constitutional lawyer, noted for his prominent role in legal moves leading to repeal of the 18th Amendment. An advocate of international army for the maintenance of peace and author of *World Government Versus Constitution*.

Allen, Viola (b. Huntsville, Ala., Oct. 27, 1869—d. New York, N.Y., May 9, 1948). Famous classical and Shakespearean actress who made her debut in the title role of *Emeralda* in 1882. Leading lady at Charles Frohman's Empire Theater, 1893-98; retired from the stage in 1918.

Alonso López, Francisco (b. Granada, Spain, May 9, 1887—d. Madrid, Spain, May 18, 1948). Orchestra conductor and Spain's foremost composer of operettas and musical comedies (zarzuelas). His more than 60 works include *Marriage of a Wanderer*, *A Cigarette and My Wife*, and the popular one act *Las Corsarias*.

Anderson, Isaac Weid Perkins (b. Boston, Mass., Mar. 29, 1878—d. Brookline, Mass., Nov. 3, 1948). Author of fiction, plays, and poetry; philanthropist; and world traveler. She was the widow of Larz Anderson, sometime United States ambassador to Japan. Her writings include *The Great Sea Horse*, *Captain Ginger Series*, *The Spell of Japan*, and other travel books.

Andrews, Adolphus (b. Galveston, Tex., Oct. 7, 1879—d. Houston, Tex., June 19, 1948). Vice admiral, USN (retired); commanding officer of the Eastern Sea Frontier, 1942-43; commander of the Fleet Scouting Force, 1938-41. He served as naval aide to three presidents: Theodore Roosevelt, Harding, and Coolidge.

Angelesco, Constantin (b. Craiova, Rumania, 1869—d. Bucharest, Rumania, Sept. 14, 1948). Physician, diplomat, statesman; first Rumanian Minister to the United States, 1918; and Premier of Rumania, 1933-34. A member of the Liberal Party, he held many cabinet posts and was a senator from 1901-33.

Arce y Ochotoreana, Manuel (b. Pamplona, Spain, 1879?—d. Barcelona, Spain, Sept. 16, 1948). Archbishop of the Roman Catholic Diocese of Tarragona since 1935, and a cardinal since 1946.

Arinkin, Mikhail Innokentyevich (b. Tshita, Siberia, Russia, 1876—d. Reported by Moscow, Sept. 9, 1948). Scientist widely known for his work in the field of hematology. Faculty member of the Medical Military Academy, Moscow, and the author of some 40 volumes on hematology.

Armat, Thomas (b. Fredericksburg, Va., Oct. 26, 1866—d. Washington, D.C., Sept. 30, 1948). Engineer, inventor, and pioneer in the motion picture industry. His invention of the Vitascope (patented in 1896) was the forerunner of present-day projection machines.

Ashfield, Albert Henry Stanley, 1st Baron of Southwell (b. Derby, England, Nov. 8, 1874—d. London, England, Nov. 4, 1948). Transportation expert; creator and chairman of the London Passenger Transportation Board, 1933-47; since then chairman of the British Transport Commission. President of the Board of Trade (1916-19); an M.P., 1916-20; and from 1922-33, managing director of the Underground Group of Companies. Raised to the peerage in 1920.

Atherton, Gertrude Franklin (b. San Francisco, Calif., Oct. 30, 1857—d. San Francisco, Calif., June 14, 1948). Author of numerous historical and biographical novels, of which *The Conquerors* and *Black Oxen* were most successful.

Atkinson, Joseph E. (b. Newcastle, Ont. Canada, Dec. 23, 1865—d. Toronto, Canada, May 8, 1948). Publisher and owner of *The Toronto Daily Star* and *The Toronto Star Weekly*.

Ayers, Harry Morgan (b. Montclair Heights, N.J., Oct. 6, 1881—d. New York, N.Y., Nov. 19, 1948). Scholar, educator, and a member of the Columbia University faculty since 1908; director of the Summer Session, 1939; acting director, 1942-46, since director of University Extension; and director of Casa Italiana since 1940. His published works include *Beouf*, *Carroll's Alice*.

Baggot, King (b. St. Louis, Mo., 1880—d. Hollywood, Calif., July 11, 1948). Motion picture director and leading actor of the silent screen. In a film career which began in 1909 he appeared in such pictures as *The Scarlet Letter*, *Dr. Jekyll and Mr. Hyde*, and *Joanhoe*.

Bailey, Carl Edward (b. Bernie, Mo., Oct. 8, 1894—d. Little Rock, Ark., Oct. 23, 1948). Lawyer, politician, and governor of Arkansas, 1937-41.

Baker, Lee (b. Ovid, Mich., 1876—d. Los Angeles, Calif., Feb. 24, 1948). Well known character actor who made his debut as Menas in *Anthony and Cleopatra* (1908). Appeared in *Strange Interlude*, *Mourning Becomes Electra*, *Song of Songs*, *Richard II*, and *High Tor*. He last appeared in *The Little Foxes*.

Baldemir, Alfredo (b. Montevideo, Uruguay, Aug. 27, 1884—d. Montevideo, Uruguay, Feb. 25, 1948). Soldier, statesman, and president of Uruguay, 1938-42.

Balke, Clarence William (b. Auburn, Ohio, Mar. 29, 1880—d. Highland Park, Ill., July 8, 1948). Metallurgist, inventor, and research director of the Faunsteel Metallurgical Company, 1916-46. Holder of some 80 patents, he was developer of tantalum, a rare metal used during World War II.

Barnes, George Emerson (b. Hersey, Mich., May 26, 1882—d. Philadelphia, Pa., Dec. 29, 1948). Clergyman and nationally known leader in the Presbyterian ministry. A Rhodes Scholar (1904-07), he served as Moderator of the Michigan Synod, 1915-16; of the Philadelphia Presbytery, 1936-38.

Barrington-Ward, Robert McGowan (b. England, 1891—d. Dar-es-Salaam, E. Africa, Feb. 29, 1948). Editor of the *London Times* since 1941, and associated with that paper since 1913. From 1919-27 he was assistant editor of the *Observer*.

Baskett, James (b. Indianapolis, Ind., Feb. 16, 1904—d. Hollywood, Calif., July 9, 1948). Negro actor of the

stage, screen, and radio; best known for portrayal of Uncle Remus in Disney's *Song of the South*, for which he won a special Oscar. On the radio he created the role of Gabby in *Amos 'n' Andy*.

Bateman, George Frederick (b. Halifax, England, July 1, 1876—d. New York, N.Y., Jan. 29, 1948). Mechanical engineer; with Cooper Union since 1907 and dean of its school of engineering since 1933. President of the Electrical Society, 1944-46, director, 1940-47.

Beard, Charles Austin (b. near Knightstown, Ind., Nov. 27, 1874—d. New Haven, Conn., Sept. 1, 1948). Historian and author; on the faculty of Columbia University, 1907-17; director of the Training School for Public Service, 1917-22. Author of some 80 volumes on American history, including *History of the United States and Rise of American Civilization* (with his wife); *American Government and Politics*; *American Foreign Policy in the Making*; 1932-41, etc.

Beard, Walter Horace Samuel, Second Viscount (b. England, Mar. 13, 1882—d. Banbury, Oxfordshire, England, Nov. 8, 1948). Financier, philanthropist, art collector, and board chairman of the Shell Transport and Trading Company (retired). A leader in oil trading and a director in 52 companies of the Shell Royal Dutch Group. His famous art collection, housed in a 15th century dwelling, was recently bequeathed to the British nation.

Bockman, Francis Joseph (b. Cincinnati, Ohio, Oct. 25, 1875—d. Chicago, Ill., Oct. 17, 1948). Roman Catholic prelate; Archbishop of Dubuque, Iowa, 1930-46. Ordained in 1902, consecrated a bishop in 1925, he became assistant to the Papal Throne in 1928 with the title of Roman count.

Belo, Antonio (b. Turin, Italy, Feb. 14, 1857—d. Huntington, L.I., New York, July 16, 1948). Noted sculptor whose work was chiefly devoted to religious subjects. Altars, statues, and monuments are in the United States, Argentina, and Italy.

Benedict, Ruth Fulton (b. New York, N.Y., June 5, 1887—d. New York, N.Y., Sept. 17, 1948). Noted anthropologist; on the faculty of Columbia University since 1923; director of a project "Research in Contemporary Cultures." In her special field of behavior she did researches guided morale and propaganda offensives during World War II. She undertook several field trips for the study of American Indians. Among her published works are *Patterns of Culture*; *Tales of the Cochiti Indians*; *Zuni Mythology, Science and Politics*; and *The Chrysanthemum and the Sword*.

Bone, Eduard (b. Kozlany, Bohemia, May 28, 1884—d. Sesthovo Usti, Czechoslovakia, Sept. 3, 1948). Political economist, journalist, and president of the Czechoslovak Republic 1945-48. He was minister for foreign affairs, 1945-46, and premier, 1942-45. Following his resignation in 1948, he taught at the University of Chicago, returning to Prague in 1945. Re-elected to a 7-year term as president in 1946, he resigned on June 7, 1948, thus ending his efforts to pursue a pro-Russian foreign policy while retaining his country's multi-party system. Author of numerous books on Central European politics, including *Democracy: Today and Tomorrow*; *My War Memoirs*, etc.

Bonel, Laurence Vincent (b. West Point, N.Y., Jan. 12, 1863—d. Georgetown, Md., May 21, 1948). Engineer and inventor of international repute, who perfected the Hotchkiss gun. He was vice president and director of La Société Hotchkiss & Cie., Paris, 1885-1936.

Berdyaev, Nikolai Aleksandrovich (b. Russia, 1874—d. Clamart, France, Mar. 24, 1948). Religious philosopher, author, and teacher. *The Meaning of Creativeness, an Essay in Justification*, is considered his most important work. He also wrote *Solitude and Society*; *The Destiny of Man*; *Freedom of the Spirit*.

Bernadotte of Wisborg, Count Folke (b. Stockholm, Sweden, Jan. 2, 1895—d. Jerusalem, Palestine, Sept. 17, 1948). United Nations mediator in Palestine since May 21, 1948, assassinated by what was believed to be members of the Stern group of extremists. A nephew of King Gustaf V, of Sweden, he had been trained as a soldier but devoted his life to the furtherance of humanitarian causes. He headed the Swedish Boy Scouts, the Swedish Red Cross, the Swedish equivalent of the USO; and in 1945 acted as a Red Cross go-between when Himmler sought to negotiate a separate peace with the Western powers.

Bernanos, Georges (b. Paris, France, 1888—d. Paris, France, July 5, 1948). Novelist, essayist, and author of the famous *Journal d'un Curé de Campagne*. As a political writer he had been associated with the Royalist newspaper *Action Française*, and later became a supporter of the de Gaulle movement.

Berry, George Leonard (b. Lee Valley, Hawkins County, Tenn., Sept. 12, 1882—d. Pressman's Home, Tenn., Dec. 4, 1948). Union official, politician, prospector, and since 1907 president of the International Printing Pressmen and Assistants Union. Various served as United States Senator, 1937-38; assistant administrator of NRA; coordinator for Industrial Cooperation; on the Social Security Board; and on the first National Labor Board. He established Pressmen's Home, a combined trade school and home for indigent printers.

Beyer, Otto Sternoff (b. Woodbridge, N.J., Sept. 18, 1886—d. Washington, D.C., Dec. 8, 1948). Industrial consultant, engineer, and a pioneer in labor-management

relations. Sometime chairman of the National Mediation Board (1936-43); consultant to the Tennessee Valley Authority, the U.S. Maritime Commission, etc. From 1942-44 he served as a member of the War Manpower Commission.

Biddie, Anthony Joseph Draxel (b. West Philadelphia, Pa., Oct. 1, 1874—d. Syosset, Long Island, N.Y., May 27, 1948). Author, lecturer, and outstanding teacher of military gymnastics. Founded movement called Athletic Christianity. He wrote *A Dual Role*; *All Around Athletics*; *Do or Die*, etc.

Biggar, Oliver Mowat (b. Toronto, Canada, Oct. 11, 1876—d. Ottawa, Canada, Sept. 4, 1948). Lawyer and Judge Advocate General of Canada; member of the Joint Board of Defense, 1940-45; director of coronial, 1942-44; and chief electoral officer for Canada, 1930-27.

Bilmanis, Alfred (b. Riga, Latvia, Feb. 2, 1887—d. Rehoboth Beach, Del., July 26, 1948). Diplomat, editor, and author; Latvian minister to the United States, since 1935; to the U.S.S.R., 1932-35. Sometime editor of *Briega Zeme*; the author of *History of Poland*; *History of Sweden*, etc.

Black, George Fraser (b. Stirling, Scotland, Mar. 10, 1865—d. Lyndhurst, New Jersey, Sept. 7, 1948). Librarian, bibliographer, huggist, and authority on gypsy lore and witchcraft. Associated with the New York Public Library, 1896-1931.

Blau, Thomas (b. Riga, Latvia, Aug. 5, 1884—d. near Canal Zone, Nov. 29, 1948). Shipping official, assistant to the vice president in charge of operations of the Grace Line, and commandant of the United States Maritime Service since 1942. During World War II he saw active service with the Navy, being promoted to the rank of commodore in 1945. As commander of 33 convoys he never lost a ship through enemy action. Awarded Navy Cross.

Block, Carl Elis Daniel (b. Ökneville, Sweden, Feb. 12, 1874—d. Gothenburg, Sweden, Oct. 8, 1948). Ecclesiastic and Lutheran Bishop of the Diocese of Gothenburg since 1929. Ordained in 1898, he was one of Sweden's most influential church leaders and took active part in social welfare work.

Bluo, Rupert (b. Richmond County, N.C., May 30, 1868—d. Charleston, S.C., Apr. 12, 1948). Sanitation authority and surgeon general of the United States Public Health Service, 1912-20.

Blumenfeld, Ralph David (b. Watertown, Wis., Apr. 7, 1864—d. Dunmow, Essex, England, July 17, 1948). Newspaperman, author, and editor of *The London Daily Express*, 1904-32. Sometime associated with the *Chicago Tribune*, *The World*, *The Herald*, and the United Press.

Boex, Scraphim Justin François. See *Rosny, J. H.*

Boisson, Pierre François (b. June 19, 1834—d. Le Vestnet, France, July 21, 1948). Governor General of French West Africa, 1940-43; of Brazzaville, 1939. A member of Darlan Imperial Council (1912) he was deprived of French nationality by Vichy, and arrested on treason charge at Algiers, 1943.

Booth, Maude Bullington Charlesworth (b. Lingsfield, Surrey, England, Sept. 13, 1865—d. Great Neck, Long Island, N.Y., Aug. 26, 1948). Reformist; national president of the Volunteers of America, to which post she succeeded her husband in 1940. Served with the Y.M.C.A. in France and Germany during World War I; co-founder of Parent-Teachers Association; and active in prison reform work and the rehabilitation of ex-convicts.

Borenus, Tancred (b. Viborg, Finland, 1885—d. Salisbury, England, Sept. 3, 1948). Author, philosopher, and leading authority on art and archaeology; since 1922, professor at University College, London. Editor of *The Burlington Magazine*, 1940-45; he wrote, or edited, many volumes on art, including a new edition of *History of Painting in North Italy*; *St. Thomas Becket in Art*, etc.

Bornschein, Franz Carl (b. Baltimore, Md., Feb. 10, 1879—d. Baltimore, Md., June 8, 1948). Composer, musicologist, and a member of the faculty of Peabody Conservatory of Music, since 1905. His compositions embrace orchestral works, chamber music, chorals, and the operetta *The Willow Plate*.

Bowen, Arnold Everett (b. Lowell, Mass., 1901—d. East Stroudsburg, Pa., Oct. 15, 1948). Research engineer, radar expert, and pioneer in the development of microwave devices. During World War II he had charge of the Air Forces Airborne Radar Equipment Board.

Bradford, Roark (b. Lauderdale County, Tenn., Aug. 21, 1896—d. New Orleans, La., Nov. 13, 1948). Newspaperman and humorist, best known for his Negro dialect stories, for which he received the O. Henry Memorial Award, 1927. He was the author of *Ol' Man Adam an' his Chillun*, on which *Green Pastures* was based.

Bradley, John Jewsbury (b. Chicago, Ill., Apr. 20, 1869—d. Detroit, Mich., May 21, 1948). Army officer and lawyer. A veteran of the Boxer campaign and of World War I, he graduated from West Point in 1891 and became a Brigadier General in 1926.

Braithwaite, Dame Lillian (b. Ramsgate, England, Mar. 9, 1873—d. London, England, Sept. 17, 1948). Actress, noted for her beauty and versatility in roles ranging from Shakespeare to Noel Coward. She made her stage debut in 1897 and her London debut in 1900, as Celia in *As You Like It*. Last appeared in *Armistice* and *Old Lace* during its three-year run.

Brande, Dorothea (b. Chicago, Ill., 1898—d. Boston, Mass., Dec. 17, 1948). Novelist, short-story writer, lecturer, and author of the 1936 best-seller *Wake Up and Live*. In private life she was Mrs. Seward B. Collins.

Brann, Louis Jefferson (b. Madison, Me., July 8, 1876—d. Falmouth, Me., Feb. 8, 1948). Lawyer, politician, and twice Democratic governor of Republican Maine, 1933-37.

Brauchitsch, (Heinrich Alfred Hermann) Walther von (b. Berlin, Germany, Oct. 4, 1881—d. Hamburg, Germany, Oct. 18, 1948). Field marshal (1940) and commander in chief of the German armies, 1938-41. He led the invasion of Sudetenland, conquered Poland, and in 1941, following his disastrous campaign in Russia, was retired, for "reasons of health." At the time of his death he was awaiting trial for war crimes.

Brearley, Harry (b. 1871—d. Torquay, England, July 14, 1948). Metallurgist and discoverer of stainless steel, which he patented in 1916.

Brien, Donald Francis (b. St. John's, Newfoundland, Feb. 17, 1880—d. Great Neck, Long Island, N.Y., Dec. 22, 1948). Actor and singer; gained fame as Prince Danilo in original American production of *The Merry Widow* (1907).

Bridges, Charles Higbee (b. Waltham, Mass., Mar. 1, 1873—d. Sandwich, Mass., Sept. 11, 1948). Major General, USA, and Adjutant General, 1929-43 (retired). A veteran of the Spanish-American War, the Philippine Insurrection, and World War I, he was the custodian of the American Revolution.

Briffault, Robert Stephen (b. London, England, 1876—d. London, England, Dec. 11, 1948). Noted anthropologist, novelist, and onetime surgeon. Following World War I he left medicine and turned to anthropology, his most important work in this field being *The Mothers*. His first novel, *Europa*, appeared in 1935 and was an international success.

Brill, Abraham Arden (b. Austria, Oct. 12, 1874—d. New York, N.Y., Mar. 2, 1948). Eminent psychiatrist and analyst who introduced the teachings and writings of Freud to the English-speaking world. Sometime lecturer at various universities. Author of *Psychoanalysis—Its Theories and Practical Application*, *Fundamental Conceptions of Psychoanalysis*, *Freud's Contribution to Psychiatry*, etc.

Brillouin, (Louis) Marcel (b. Saint-Martin-de-Villars, France, Dec. 19, 1854—d. France, June 16, 1943). Mathematician, physicist, and former professor in the Collège de France. Famous for his fundamental researches in pure physics; a member of the Académie des Sciences (1921); and the author of *Stabilité des aéroplanes* and *Quantités de mouvements et actions mutuelles*.

Brooks, Peter Anthony (b. Watertown, Wis., June 14, 1893—d. Milwaukee, Wis., May 16, 1948). Roman Catholic priest; president of Marquette University since 1944; and head of the Missouri Province of the Society of Jesus, 1937-43.

Brown, Alice (b. Hampton Falls, N.H., Dec. 5, 1857—d. Boston, Mass., June 21, 1948). Novelist, poet, and playwright of the New England scene. A play, *Children of Earth*, won her the \$10,000 Winthrop Ames Prize in 1915.

Brown, Charles D. (b. Council Bluffs, Iowa, July 1, 1887—d. Hollywood, Calif., Nov. 25, 1948). Character actor of the stage and screen who scored one of his greatest successes as Hatchways in *The Commodore Marries* (1929).

Brown, Marshall Stewart (b. Keene, N.H., Nov. 6, 1870—d. New York, N.Y., Sept. 13, 1948). Educator, dean of the faculties of New York University, 1917-40 (retired), and a member of the faculty since 1894. Author of *Epoch-Making Papers in the History of the United States*.

Brown, Mordcai Peter Centennial (b. 1887—d. Terre Haute, Ind., Feb. 14, 1948). One of the greatest pitchers in major-league baseball; he won 239 games and lost 131 between 1903-16. Famous for his pitching duels with Christy Mathewson of the Giants.

Brown, Preston (b. Lexington, Ky., Jan. 2, 1872—d. Vineyard Haven, Mass., June 30, 1948). Major General, USA (retired); he rose from the ranks to Major General (1925), and in World War I led the Third Division of the AEF in the Meuse-Argonne Battle.

Brown, Sidney George (b. Chicago, Ill., July 6, 1873—d. Sidmouth, Devon, England, Aug. 7, 1948). Electrical engineer and inventor; instrumental in development of telephony, telegraphy, and the gyroscopic compass. Holder of more than 1,000 patents, he served on the Admiralty Ordnance Council during World War II.

Browning, Albert Jesse (b. Ogden, Utah, Sept. 27, 1899—d. Detroit, Mich., July 2, 1943). Business executive and army officer; since 1946, vice president of the Ford Motor Company. With the temporary rank of Brigadier General, he served as special assistant to Donald B. Nelson, Officer of Production Management; director of Purchase Division, ASF, 1942-46; and as Assistant Secretary of Commerce under Henry Wallace.

Bruins, Gilsbert Weijer Jan (b. 1883—d. Washington, D.C., Mar. 22, 1948). Executive director of the International Monetary Fund; formerly Royal commissioner of the Netherlands Bank, and international commissioner of the German Reichsbank, under the Dawes Plan.

Bulgakov, Leo (b. Moscow, Russia, Mar. 22, 1889—d. Binghamton, N.Y., July 20, 1948). Actor and producer, a member of the Moscow Art Theater, 1911-26. When that company visited New York in 1923 he was seen in *The*

Brothers Karamazov, *The Lower Depths*, and *Uncle Vanya*. Later directed *The Cherry Orchard* (1928) and *The Sea Gull* (1929).

Burton, Eli Franklin (b. Green River, Ont., Feb. 14, 1879—d. Toronto, Canada, July 6, 1948). Physicist and internationally known scientist, noted for his development of the electron microscope. A faculty member at the University of Toronto since 1902, he headed the department of physics since 1932. His researches dealt with the refractivity of crude petroleum, superconductivity, and colloidal arsenic treatments for cancer.

Bush, Irving T. (b. Ridgeway, Mich., Feb. 12, 1869—d. New York, N.Y., Oct. 21, 1948). Shipbuilding expert, and founder and president of the Bush Terminal Company (1902).

Bushfield, Harlan John (b. Atlantic, Iowa, Aug. 6, 1882—d. Miller, S.D., Sept. 27, 1948). Lawyer, politician, and Republican senator from South Dakota since 1943; governor of South Dakota, 1939-42, inclusive. He was a leading isolationist and bitter foe of Roosevelt; also an opponent of OPA, and a member of the farm bloc.

Carpenter, George Lyndon (b. New South Wales, Australia, June 20, 1872—d. Sydney, Australia, Apr. 9, 1948). Salvation Army general who succeeded Evangeline Booth as international commander (1939-46).

Carroll, Earl (b. Pittsburgh, Pa., Sept. 16, 1893—d. Mount Carmel, Pa., June 17, 1948). Theatrical producer and song writer. Famous for his *Earl Carroll Vanities* staged at his own theater in New York, 1922-36, and in Hollywood.

Carter, George Henry (b. Mineral Point, Wis., Sept. 10, 1874—d. New York, N.Y., Oct. 23, 1948). Engineer, former newspaperman, and Public Printer of the United States, 1921-34.

Cellier, Frank (b. Surbiton, England, Feb. 23, 1884—d. London, England, Sept. 27, 1948). Noted character actor, manager, and producer. He made his stage debut in *Sweet Lavender* (1905), his London debut as actor-manager of *Cheer Boys, Cheer* (1914), and was last seen as Arthur Winslow in *The Winslow Boy*.

Cesaire, Oscar Edward (b. Linköping, Sweden, 1885—d. Stamford, Conn., July 24, 1948). Artist and political cartoonist whose interview-sketch stories appeared in many newspapers and magazines. He was a regular contributor to the *New York Times* since 1920.

Chamberlain, John Loomis (b. New York, N.Y., Jan. 20, 1858—d. Washington, D.C., Nov. 4, 1948). Major General AUS (since 1926) and Inspector General of the U.S. Army, 1917-21.

Chase, William Bunton (b. Syracuse, N.Y., 1872—d. Whitefield, N.H., Aug. 25, 1948). Music critic; music editor of the *New York Times*, 1916-35; of the *New York Sun*, 1896-1916.

Chettiar, Rajah Sri Annamalai of Chittinad (b. Adyar, India, Sept. 30, 1881—d. Madras, India, June 15, 1948). Banker, industrialist, founder and pro-chancellor of the University of Annamalai. He also established a conservatory, hospital, and other educational institutions.

Christianson, Theodore (b. Lac qui Parle, Minn., Sept. 12, 1883—d. Dawson, Minn., Dec. 9, 1948). Lawyer; political leader; governor of Minnesota, 1925-31; and representative in Congress, 1933-37. Sometime editor of the *Dawson Sentinel* (1909-25).

Clements, Colin Campbell (b. Omaha, Neb., Feb. 25, 1894—d. Philadelphia, Pa., Jan. 29, 1948). Famous playwright and short story writer; author of *Harriet* and *Strange Bedfellows*. Many novels, stories, and screen plays were written with his wife, Florence Pearson, among them *Blind Man's Buff*, *Shadows*, and *First Person Singular*.

Clive, Sir Robert Henry (b. Whitfield, Herefords, England, Dec. 27, 1877—d. Forest Row, Sussex, England, May 13, 1948). British diplomat, ambassador to Japan, 1934-37, and to Belgium, 1937-39.

Cochin, Sri Kerala Varma, Maharajah of (b. India, July, 1870—d. Ernakulam, India, July 8, 1948). Ruler of the princely state of Cochin in southwestern India. He ascended the Musnad in 1946; succeeded by Sri Rama Varma.

Cockerell, Theodore Dru Allison (b. Norwood, England, Aug. 22, 1866—d. San Diego, Calif., Jan. 26, 1948). Zoologist, educator, author, and a member of the faculty of the University of Colorado, 1904-34 (emeritus). Sometime curator of the Public Museum, Jamaica (1891-93). In the field of entomology he devoted much study to the classification of bees. His researches also included conchology, fossils, and evolution.

Cohen, (Solomon) Sells (b. Philadelphia, Pa., Sept. 1, 1857—d. Philadelphia, Pa., Jan. 12, 1948). Physician and noted diagnostician; on the faculty of Jefferson Medical College, 1885-1927; and a consultant at several hospitals. Also well known as an author, translator, editor, and poet; he was founder and member of the publishing committee of the Jewish Publication Society and a founder of the Jewish Theological Seminary.

Cole, Percival Richard (b. Muswellbrook, New South Wales, May 18, 1843—d. Sydney, Australia, Aug. 7, 1948). Scholar, educator, and principal of Sydney Teachers College, 1910-41; Australian representative of the Carnegie Endowment for International Peace; visiting Carnegie professor in the United States, 1929, 1936-37; and a lecturer at Columbia University, 1908-10. He was the

author of *Crimes and Morals, A Neglected Educator, etc.*
Collins, Mrs. Seward B. (b. *Brandt, Dorothea*.
Conant, Ernest Leo (b. Dudley, Mass., Sept. 11, 1857—d. Stamford, Conn., Nov. 29, 1948). Lawyer, realtor, and authority on Cuban affairs. Various served as legal adviser to the American Evacuation Commission in Cuba (1898), as counsel to the military governor (1899), and as confidential adviser to President McKinley.
Cone, Frederick Preston (b. Seaboard, Fla., Sept. 28, 1871—d. Lake City, Fla., July 15, 1948). Lawyer, politician, and governor of Florida, 1937-41.
Coningham, Sir Arthur (b. Birkham, New Zealand, 1895—d. At sea, Jan. 30, 1948). British Air Marshal (1946); commander of the 2d Tactical Air Force in the Normandy invasion (1944-45); and of the 8th Army in North Africa. Died in air crash on flight from Azores to Bermuda.
Connell, Norroys. See *O'Riordan, Conal Holmes O'Connell*.
Conyers, Sir James Reginald (b. Hamilton, Bermuda, Sept. 3, 1879—d. Hamilton, Bermuda, July 26, 1948). Lawyer, parliamentarian, and speaker of the Bermuda House of Assembly since 1933. A member of the House since 1904; chairman of the Board of Trade, 1925-27; he was knighted in 1944.
Cortissoz, Royal (b. Brooklyn, N.Y., Feb. 10, 1869—d. New York, N.Y., Oct. 17, 1948). Art critic, lecturer, author, and since 1891 art editor of the *Herald Tribune* and its predecessor the *Tribune*. Author of *Augustus St. Gaudens, John La Farge, Art and Common Sense, American Artists*, etc.
Cotton, Lucy (b. Houston, Tex., 1892—d. Miami Beach, Fla., Dec. 12, 1948). Former actress who rose to stardom in *Up in Mabel's Room*. Her fifth and last husband was Prince Vladimir Evstavi-Tchitchewine.
Cottrell, Frederick Gardner (b. Oakland, Calif., Jan. 10, 1877—d. Berkeley, Calif., Nov. 16, 1948). Scientist, inventor, and founder (1912) of Research Associates. Besides his outstanding invention, the Cottrell electrical precipitator, he did research on thermal fixation of atmospheric nitrogen, and perfected a process for low priced helium. Cottrell served with the United States Department of Agriculture, 1922-43; the Bureau of Mines, 1911-20; and the Smithsonian Institution, 1928-39.
Cowlos, Eugene Chase (b. Stanstead, Quebec, Canada, Jan. 17, 1860—d. Boston, Mass., Sept. 23, 1948). Opera and concert singer who appeared with the Bostonians, 1888-98, and as leading man in the Neilson Opera Company, 1898. His best known roles were those of Will Scarlett in *Rubin Hood* and as the leading basso in *Chu Chin Chow*.
Croighton, Frank Whittington (b. Philadelphia, Pa., Dec. 3, 1879—d. Washington, D.C., Dec. 24, 1948). Bishop of the Protestant Episcopal Diocese of Michigan, 1940-48 (retired); Suffragan Bishop of Long Island, 1933-37; and the last non-Mexican Bishop of Mexico, 1926-33. He was the author of *Our Heritage, Mexico, and Christianity is Life*.
Cronier, Henri (b. Paris, France, Dec. 17, 1873—d. New York, N.Y., Oct. 1, 1948). Noted sculptor, represented in the Metropolitan Museum of Art and in many private collections. His work of bas-reliefs, fountains, and portrait busts includes *Boy and Turtle, Fenimore Cooper Memorial*, etc.
Cromwell, William Nelson (b. Brooklyn, N.Y., 1854—d. New York, N.Y., July 19, 1948). Corporation lawyer and a director in many corporations. Successfully reorganized numerous large companies and negotiated treaties leading to the transfer of the Panama Canal site to the United States.
Cross, Wilbur Lucius (b. Mansfield, Conn., Apr. 10, 1862—d. New Haven, Conn., Oct. 5, 1948). Scholar, educator, politician, and governor of Connecticut, 1931-39. On the faculty of Yale University from 1894-1930; Sterling professor of English since 1922, and dean of the Graduate School since 1916. Edited the *Yale Review* (1911-10) and the *Yale Review Anthology*. Author of *Life and Times of Laurence Sterne, History of Henry Fielding, An Outline of Biography*, and an autobiography, *Connecticut Yankee*.
Crowell, James R. (b. Bryn Mawr, Pa., 1894—d. New York, N.Y., Jan. 18, 1948). Author, journalist, and magazine writer. Sometime foreign correspondent for the *New York Herald Tribune*; news editor, later sports editor for the *New York Telegram*. His published work includes *Down the Stretch, The Spell of the Turf, I Had a Hunch*, and *The Fifth Estate*.
Cumming, Hugh Scott (b. Hampton, Va., Aug. 17, 1869—d. Washington, D.C., Dec. 20, 1948). Internationally known public health officer; Surgeon General of the U.S. Public Health Service, 1920-36.
Curtius, Julius (b. Duisburg, Germany, Feb. 7, 1877—d. Heidelberg, Germany, Nov. 12, 1948). Lawyer, politician, and a German People's Party representative in the Reichstag, 1920-32. He held the cabinet posts of Foreign Minister (1929-31) and Reich Minister for Economic Affairs (1926-29). From 1930-31 he served as German member of the League of Nations Council.
Dalnoky-Miklos, Bela (b. Hungary, 1891—d. Budapest, Hungary, Nov. 24, 1948). Army general, sometime military attaché, and Prime Minister of the Hungarian Provisional government, 1944-45.

Daly, Thomas Augustine (b. Philadelphia, Pa., May 28, 1871—d. Philadelphia, Pa., Oct. 4, 1948). Internationally known newspaperman, poet, and lecturer. Since 1929 his feature column "Rhymes and Ripples" appeared in the *Philadelphia Evening Bulletin*. Notable among his Italian dialect verse was *McAroni Ballads*; also *Ganzoni, Madrigali, Songs of Wedlock*, etc.
Daniel, John Franklin, III (b. Ann Arbor, Mich., 1910—d. Ankara, Turkey, Dec. 17, 1948). Noted archaeologist on the staff of the University of Pennsylvania Museum, and editor in chief of the *American Journal of Archaeology*.
Daniels, Josephus (b. Washington, N.C., May 18, 1862—d. Raleigh, N.C., Jan. 15, 1948). Secretary of the Navy, 1913-21; ambassador to Mexico, 1913-15, and editor and publisher of the *Raleigh, N.C., News and Observer*, 1885-1948.
Dann, William John (b. Bath, England, Nov. 9, 1904—d. Durham, N.C., Dec. 5, 1948). Physician of national repute and recognized authority on nutrition and vitamins. Chief researches were on pellagra and related diseases. Since 1935 he was professor at Duke University School of Medicine.
Darton, Nelson Horatio (b. Brooklyn, N.Y., Dec. 17, 1865—d. Chevy Chase, Md., Feb. 28, 1948). Internationally known oil geologist; with the United States Geological Survey 1886-1910, 1911-36 and with the Bureau of Mines, 1910-13. Inventor of a sugar process; researcher in tannic acids and water analysis. Author of *The Story of the Grand Canyon, Geologic Guide to the Santa Fe Railroad*, etc.
Dolaney, Jack (b. St. Francis, Alberta, Canada, Mar. 19, 1900—d. Katonah, N.Y., Nov. 27, 1948). Former light heavyweight boxing champion whose real name was Oliver Chapdelaine. Between 1919 and 1928 he won 60 of 70 bouts, 35 of them knockouts.
Dolaney, John J. (b. Brooklyn, N.Y., Aug. 21, 1878—d. Brooklyn, N.Y., Nov. 18, 1948). Lawyer, politician, and Democratic representative to Congress, 1917-19, and since 1931.
Donham, George Edward Wentworth Bowyer, 1st Baron, of Weston Underwood (b. Olney, Bucks, England, Jan. 10, 1880—d. London, England, Nov. 30, 1948). Lawyer, politician, and vice chairman of the Conservative Party, 1930-35. A member of Parliament, 1918-37, and of the House of Lords, since 1937. He served as Conservative Party Whip, 1925-35, and 1945-47.
De Oro, Alfred (b. Cuba, 1856—d. North Pelham, N.Y., Apr. 23, 1948). Former world champion of pocket billiards, who won his first crown in 1887 and retained it almost continually for 30 years.
Derby, Edward George Villiers Stanley, 17th Earl of (b. London, England, Apr. 4, 1865—d. Knowsley, Lancs., England, Feb. 4, 1948). British statesman, diplomat, and owner of famous racing horses. He was Secretary of State for War, 1916-18, 1922-24; and Ambassador to France, 1918-20.
Devino, Edward Thomas (b. Union, Iowa, May 6, 1867—d. Chicago, Ill., Feb. 27, 1948). Author, lecturer and welfare official. Various editor and assistant editor of the *Survey*, 1897-1921; general secretary, Charity Organization Society, 1896-1917; dean of the Graduate School, American University, 1926-28.
Diamond, Harry (b. Quincy, Mass., Feb. 12, 1900—d. Washington, D.C., June 21, 1948). Radio engineer, chief of the electronics division of the National Bureau of Standards, and with the Bureau since 1927. Co-inventor of the proximity fuse, the Number Two secret weapon of World War II.
Dickey, Herbert Sponcer (b. Highland Falls, N.Y., Feb. 24, 1876—d. Huigra, Ecuador, Oct. 28, 1948). Physician, explorer, and author. His many expeditions in South and Central America included 5 treks across the Ecuadorian Andes, the first "dunde" expedition down the Amazon (1932), a journey to the land of the headhunters (1926), and the discovery of an unrecorded tribe in Colombia (1928). Author of *My Jungle Book, The Misadventures of a Tropical Medicine* (with D. Hawthorne), and articles to the *New York Times*.
Dobie, J. Gilmour (b. Hastings, Minn., Jan. 31, 1879—d. Hartford, Conn., Dec. 24, 1948). Famous football coach, retired in 1939, who as a "Gloomy-Guy" spent 30 years coaching spectacularly successful teams. He scored 180 victories, 15 ties, and 45 losses in his lifetime.
Donoughmore, Sir Richard Walter John Hely-Hutchinson, 6th Earl of (b. Ireland, Mar. 2, 1875—d. Clonmel, Ireland, Oct. 20, 1948). Chairman of Committees and deputy speaker of the House of Lords, 1911-33; sometime Under-Secretary of State for War; and since 1933, chairman of the National Radium Commission.
Dorr, Rhetta Childs (b. Omaha, Neb., 1866—d. New Britain, Pa., Aug. 8, 1948). Author, war correspondent, and feminist. She was editor of the woman's department of the *New York Evening Post*, 1902-03; and author of *A Woman of Fifty, What Right Million Women Want, Inside the Russian Revolution*; and *The Life of Susan B. Anthony*.
Doublier, Francis (b. Lyon, France, Apr. 11, 1878—d. Englewood, N.J., Apr. 3, 1948). Pioneer technician in the motion picture industry; vice president, Major Film Laboratories, Inc., and charter member of Picture Pioneers, Inc.

Doumenc, Joseph Edouard (b. Grenoble, France, Nov. 16, 1880—d. Blanc Glacier, France, July 21, 1948). Army general who, as minister of National Reconstruction under Pétain, directed the demobilization of the French army.

Dowling, Henry Taylor (b. Lowndes County, Ga., Jan. 19, 1849—d. Atlanta, Ga., Nov. 6, 1948). The last of Atlanta's Confederate veterans. General Dowling was commander-in-chief of the United Confederate Veterans, 1945-47.

D'Oyly Carte, Rupert (b. Hampstead, England, Nov. 3, 1876—d. London, England, Sept. 12, 1948). Owner-manager of the famous D'Oyly Carte Opera Company, since 1913; and chairman of the Savoy group of hotels.

Dukeston, Charles Dukes, 1st Baron of Warrington (b. 1881—d. London, England, May 14, 1948). One of Great Britain's foremost labor leaders; president of the Trades Union Congress, 1945-46; Labour M.P., 1923-24, 1929-31; and a member of the court of the Bank of England.

Dunn, John Randall (b. Massillon, Ohio, 1878—d. Centerville, Mass., Dec. 22, 1948). Editor of the *Christian Science Journal*, *Sentinel* and *Herald*, since 1943, and President of the Mother Church, 1942-43.

Du Pont, A. Felix (b. Wilmington, Del., Apr. 14, 1879—d. Rehoboth Beach, Del., June 29, 1948). Industrialist, and director and former vice president of E. I. du Pont de Nemours & Co. An aviation enthusiast, he was particularly interested in gliding.

Durant, Mrs. Kenneth E. See *Taggard, Genevieve*.

Duryea, Mrs. Peter E. C. See *Allen, Viola*.

Du Toit, Alexander Logie (b. South Africa, Mar. 14, 1878—d. Capetown, South Africa, Feb. 25, 1948). Internationally known geologist and explorer; leader of scientific expeditions to Africa, South America, etc. Fellow of the Royal Society (1943). Author of *A Geological Comparison of South America with South Africa and Our Wandering Continents*.

Edwards, Edward B. (b. Columbia, Pa., Feb. 8, 1873—d. Hasbrouck Heights, N.J., Feb. 16, 1948). Book designer, illustrator, and author. Founder and former director of the Institute of Graphic Arts.

Egan, Joseph L. (b. New York, N.Y., Aug. 9, 1886—d. Monte Carlo, Monaco, Dec. 6, 1948). Lawyer, and president of the Western Union Telegraph Company since 1945. Regarded as one of the world's foremost authorities on communication, he had been with Western Union since 1912.

Egbert, James Chidester (b. New York, N.Y., May 3, 1859—d. New York, N.Y., July 17, 1948). Educator, author, and professor of Latin at Columbia University, 1906-42. He was director of University Extension, 1910-42; director of Summer Sessions, 1902-19; and director, 1916-31, dean, 1931-32, of the School of Business. Also president of the Long Island College Hospital, 1917-30, and president of the Long Island College of Medicine, 1910-31. Author and editor of works on classical subjects, general editor of Macmillan's *Series of Latin Classics*, and contributor of articles to *Funk and Wagnall's New International Encyclopedia*.

Eisenstein, Sergei Mikhailovich (b. Russia, 1898—d. Moscow, U.S.S.R., Feb. 10, 1948). Famous Soviet film producer and director; head of the State Institute of Cinematography since 1929. Besides *Potemkin*, he directed *Thunder over Mexico*, *Alexander Nevsky*, and *Iron the Terrible*.

El-Gemayel Pasha, Antoun (b. Beirut, Lebanon, 1887—d. Cairo, Egypt, Jan. 19, 1948). Writer, philologist, and editor in chief of *Al-Ahram*, largest newspaper in the Middle East, since 1931. Sometime editor of the literary review *Az Zouhour*; member of the Arabic Academy; and onetime Egyptian Senator.

Elliott, Maud Howe (b. Boston, Mass., Nov. 9, 1854—d. Newport, R.I., Mar. 19, 1948). Lecturer and author, who with sister (Laura E. Richards) received the Pulitzer Prize (1917) for *The Life of Julia Ward Howe*, their famous mother. She also wrote *Uncle Sam Ward and his Circle*, *This Was My Newport*, etc.

Elsberg, Charles Albert (b. New York, N.Y., Aug. 24, 1871—d. Stamford, Conn., Mar. 13, 1948). Noted brain surgeon and discoverer of scent detector of tumors. Co-founder of the Neurological Institute at Presbyterian Hospital, and professor emeritus of neurological surgery at the College of Physicians and Surgeons.

Ely, Robert Erskine (b. Binghamton, N.Y., Sept. 13, 1861—d. Scarsdale, N.Y., July 13, 1948). Educator, lecturer, co-founder, and former director of Town Hall, Inc. Also director of the League for Political Education, 1901-37.

Ent, Uzal G. (b. Northumberland, Pa., Mar. 3, 1900—d. Denver, Col., Mar. 5, 1948). Major General, USA (retired 1946); leader of the 9th Bomber Command which raided the Ploesti oil fields in August, 1943.

Eve, Arthur Stewart (b. Silsoe, Bedfordshire, England, Nov. 22, 1862—d. Surrey, England, Mar. 24, 1948). Internationally known physicist; on the faculty of McGill University since 1903, and dean of its graduate school, 1930-35. A collaborator of Lord Rutherford, he specialized in research of radioactivity of the earth and atmosphere.

Farquhar, S(ilas) Edgar (b. Near Evansville, Ind., Oct. 1887—d. New York, N.Y., Mar. 21, 1948). Editor of the *Grolier Encyclopedia* since 1944; editor Quarrie Corpora-

tion, 1931-40; Midland Press, 1923-30. He was also editor of *The New Human Interest Library*, *World Book Encyclopedia*, *Childcraft*, etc.

Fearon, Percy Hutton (b. Shanghai, China, Sept. 6, 1874—d. London, England, Nov. 5, 1948). Political cartoonist who as "Poy," drew more than 10,000 cartoons which appeared in the *London Evening News*, 1913-35; and *The Daily Mail*, 1935-38.

Fechet, James Edmond (b. Fort Ringgold, Tex., Aug. 21, 1877—d. Washington, D.C., Feb. 11, 1948). Major General, AUS (retired). He served as chief of the Air Corps, 1927-31, and was recalled to active staff duty, 1942-46.

Feng Yu-Hsiang (b. Anhwei Province, China, 1882—d. Black Sea, Sept. 4, 1948). War lord known as the "Christian General." Gained reputation as a military administrator and was created a Field Marshal in 1923. Often expelled and reinstated as member of the Kuomintang Central Executive Committee; he broke with Chiang Kai-shek in 1947.

Fenton, Francis Patrick (b. Boston, Mass., Mar. 11, 1895—d. Washington, D.C., Aug. 9, 1948). Labor leader and international representative of the American Federation of Labor.

Ferdinand I (Maximilian Charles Leopold Marie), King of Bulgaria (b. Vienna, Austria, Feb. 26, 1861—d. Coburg, Germany, Sept. 10, 1948). A prince of Saxe-Coburg, he was elected to the throne of Bulgaria in 1887, and assumed the title of king, or czar, in 1908. Following World War I, he abdicated (1918) in favor of his son, Crown Prince Boris. Twice married: (1) Marie Louise, Princess of Parma, and (2) Eleonore, Princess of Reuss.

Fernandez, Oscar Lorenzo (b. Rio de Janeiro, Brazil, Nov. 4, 1897—d. Rio de Janeiro, Brazil, Aug. 27, 1948). Composer, conductor, and founder and director of the Brazilian Conservatory of Music (1936). A recurring folk theme distinguished his more than a hundred compositions.

Feyder, Jacques (b. Brussels, Belgium, 1855—d. Rives de Prangins, Vaud, Switzerland, May 25, 1948). Noted French motion picture producer and director, whose real name was Frederix. His most successful picture was *Carnival in Flanders*; others were *Mother Mine*, *Faces of Children*, and *Portrait of a Woman*.

Fisher, Sir (Norman Fenwick) Warren (b. London, England, Sept. 22, 1879—d. London, England, Sept. 25, 1948). One of Great Britain's foremost administrators and a director of several banks, etc. He joined the civil service in 1903, and in 1919 was appointed permanent secretary to the Treasury and official head of the civil service.

Fisher, William Arms (b. San Francisco, Cal., Mar. 27, 1861—d. Brookline, Mass., Dec. 15, 1948). Composer, author, and editor-manager of the Oliver Ditson music publishing firm, 1897-1948. His many compositions include songs, anthems, a volume of Negro spirituals, etc. Also edited the *Musician's Library* and the *Music Student's Library*. Author of *Notes on Music in Old Boston*, *Ye Old New England Psalm Tunes*, *Music Festivals in the United States*.

Flanagan, Edward Joseph (b. Roscommon, Ireland, July 13, 1886—d. Berlin, Germany, May 15, 1948). Roman Catholic priest; ordained as a Jesuit in 1912; monsignor in 1937. Internationally known as founder and director of Father Flanagan's Boys Home, Boys Town, Nebraska (1917).

Force, Juliana (b. Doylestown, Pa., 1881—d. New York, N.Y., Aug. 28, 1948). Nationally known leader in the world of art and a champion of young artists. Associated with Mrs. Whitney for more than 40 years, she was director of the Whitney Museum of American Art since its inception in 1931.

Fournier, Alexis Jean (b. St. Paul, Minn., July 4, 1865—d. Buffalo, N.Y., Jan. 20, 1948). Landscape painter of the homes and haunts of the Barbizon masters. Founder of the Minneapolis Art League and author of *The Homes of the Men of 1830* and *Among the Cliff Duellings in San Juan Country*.

Freimann, Aron (b. Filehne, Germany, Aug. 5, 1871—d. New York, N.Y., June 6, 1948). Hebrew scholar, author, and bibliographer. Professor of Jewish History and Literature at Yeshiva College (since 1939). Formerly acting director of the Frankfurt Library, Germany, and president of that city's Jewish community. For many years editor of *Zeitschrift für Hebräische Bibliographie*; co-author (with I. Kracauer) of *History of the Jews of Frankfurt*.

Frelinghuysen, Joseph Sherman (b. Raritan, N.J., Mar. 12, 1869—d. Tucson, Ariz., Feb. 8, 1948). Politician; sometime acting governor of New Jersey; and Republican United States Senator, 1917-23.

Frew, William (b. Pittsburgh, Pa., Nov. 24, 1881—d. Pittsburgh, Pa., Jan. 31, 1948). Lawyer; president Carnegie Institute, since 1943; and chairman of the board, Carnegie Institute of Technology.

Friedman, Ignaz (b. Padgorze, Poland, Feb. 14, 1882—d. Sydney, Australia, Jan. 26, 1948). Concert pianist and composer who gave more than 2,000 concerts all over the world. His compositions include works for piano, cello, and voice. Editor of the Breitkopf and Härtel edition of Chopin's works.

Gaitán, Jorge Eliécer (b. Bogotá, Colombia, Jan. 26, 1902—d. Bogotá, Colombia, Apr. 9, 1948). Lawyer, educator, and politician; popular leader of the opposition Lib-

eral Party whose assassination touched off a serious, bloody riot. Dr. Gaitan was professor of Penal Law and rector of the Free University of Bogota, and also on the faculty of the National University.

Gallatin, Alberta (b. Cahoon, Calverton, W. Va., 1861—d. New York, N.Y., Aug. 25, 1935). Actress; appeared with Jefferson, Mansfield, Otis Skinner, etc., and was last seen on Broadway in *Cain*, in 1925. She founded (1920) the Edgar Allan Poe Society and was its president until 1937. In private life she was Mrs. Edwin O. Childre.

Gandhi, Hirajal Mohandas (b. 1887—d. Bombay, India, June 19, 1948). Religious leader, responsiveness, and oldest son of the late Mahatma Gandhi. Long opposed to his father's work, he created a sensation by embracing the Moslem faith (1936), which he later renounced.

Gandhi, Mohandas Karamchand (b. Porbandar, India, Oct. 2, 1869—d. New Delhi, India, Jan. 30, 1948). Hindi nationalist and reformer, called Mahatma by his followers. Controlling force of the Indian National Congress, and its president 1924-26, 1930-31. In 1919 he organized Satyagraha, a politico-religious movement of non-cooperation with the British government in India. His advocacy of passive resistance and civil disobedience frequently caused his imprisonment. Met his death by assassination. He was the author of *Indian Home Rule*, *Universal Peace*, *Young India*, etc.

Gaskill, Clarence L. (b. Philadelphia, Pa., 1892—d. Staten Island, N.Y., Apr. 29, 1915). Composer and writer of song hits since 1912. Best known of his hundreds of songs are *Minnie the Moocher* and *Prisoner of Love*. Also wrote the *Vanities* songs in 1925 and 1926.

Gates, Thomas Sovern (b. Germantown, Pa., Mar. 21, 1873—d. Oosterville, Mass., Apr. 8, 1948). Lawyer, banker, and educator. President of the University of Pennsylvania, 1930-34, chairman since 1934; partner in Drexel & Co., 1918-30, and J. P. Morgan & Co., 1921-30. Also a member of the National Committee of UNESCO.

Gent, Sir (Gerard) Edward James (b. England, 1895—d. near London, England, July 4, 1948). Parliamentarian, colonial administrator, and since Feb. 1, 1948, High Commissioner of the Federation of Malaya. He had served as Governor and Commander in Chief of the Malay Union, 1946-48; and as Assistant Under-Secretary of State, 1912-46.

Gerard, Richard. See *Husch, Richard Gerard*.

Gerstonberg, Charles William (b. Brooklyn, N.Y., May 25, 1882—d. Setauket, Long Island, N.Y., Sept. 15, 1948). Lawyer, educator; co-founder and sometime chairman of the board of the publishing firm of Prentice-Hall. Author of *Commercial Law*, *Materials of Corporation Finance*, *American Constitutional Law*, etc.

Gibb, Henry William Phelan (b. Alnwick, Northumberland, England, 1870—d. High Wycombe, England, Oct. 25, 1948). Controversial painter, represented in the Tate Gallery by *Street Scene*. Besides shows in London and Paris, he held two shows in New York in 1909.

Gilbert, George Blodgett (b. Randolph, Vt., Jan. 23, 1872—d. Middletown, Conn., Feb. 20, 1948). Protestant Episcopal clergyman and author of the best-selling book *Forty Years a Country Preacher*.

Gillmore, William Eugene (b. Ohio, Nov. 29, 1876—d. Washington, D.C., Nov. 7, 1948). Brigadier General, USA (retired), and assistant chief of the Army Air Force, 1926-30.

Giordano, Umberto (b. Foggia, Italy, Aug. 27, 1867—d. Milan, Italy, Nov. 12, 1948). Composer, whose most famous opera, *Andrea Chénier*, had its world premiere in Milan in 1896. Other works include: *Madame Sans-Gêne*, *Fedora*, *Cena del Beffo*.

Glagolins, Boris (b. Russia, 1878—d. Los Angeles, Calif., Dec. 12, 1948). Veteran actor, producer, and director. For more than 20 years leading man of the Literary Art Theater in Moscow, later director of State Theaters in the Ukraine, and chief director of the Moscow Theater of the Revolution. He came to the United States in 1927 as director for the Yiddish Art Theater; later was associated with the Wisconsin Players in Milwaukee.

Glaspell, Susan (b. Davenport, Iowa, July 1, 1882—d. Provincetown, Mass., July 27, 1948). Novelist, playwright, and with her first husband, George Cram Cook, founder of the Provincetown Playhouse, where Eugene O'Neill's plays were first presented. Awarded Pulitzer Prize for her play *Alison's House* (1930). Other works include *Fidelity*, *Brook Evans*, *Norma Ashe*, and *Judd Rankin's Daughter*. She was the wife of Norman Milson, author and critic.

Goldswait, James Walter (b. Lynn, Mass., Mar. 22, 1880—d. Hanover, N.H., Jan. 1, 1948). Internationally known geologist and professor of geology at Dartmouth College since 1908. Participant in many geological surveys and the author of technical books and papers.

Gomez, Laureano (b. Bogotá, Colombia, Feb. 20, 1880—d. Bogotá, Colombia, Apr. 9, 1948). Engineer, diplomat, and statesman. Leader of the Conservative Party, Foreign Minister since March, 1948, and head of the Colombian delegation to the Inter-American Conference at Bogotá. Sometime Minister to Argentina and to Germany, and a national deputy, 1911-18, 1921-23.

Gordon, Jacques (b. Odessa, Russia, 1899?—d. Hartford, Conn., Sept. 15, 1948). Noted violinist and com-

poser; founder of the Gordon String Quartet (1921) and of the Gordon Musical Association (1930).

Granard, Bernard Arthur William Patrick Hastings Forbes, 8th Earl of (b. Sept. 17, 1874—d. London, England, Sept. 10, 1948). Statesman, soldier, and public servant; member of the Irish senate, 1921-34; sometime deputy speaker of the House of Lords, director of the Bank of Ireland, and member of the Council of State in Ireland.

Gray, Clifton Daggett (b. Somerville, Mass., July 27, 1874—d. Kenebunk, Me., Feb. 21, 1948). Baptist pastor, educator, and president of Bates College (1920-41). Editor of *The Standard*, 1912-19, and sometime editor of *The Baptist*. He was the author of *Youth on the March* and *Shamash Religious Texts*.

Greenwood, Hamar, 1st Viscount Greenwood of Houlbourn (b. Whitby, Ont., Canada, Feb. 7, 1870—d. London, England, Sept. 10, 1948). Lawyer, businessman, and politician; treasurer of the Conservative Party, 1933-38; a member of Parliament, 1906-29; and chief secretary for Ireland, 1920-22.

Gregg, John Robert (b. Rockport, Ireland, June 17, 1867—d. New York, N.Y., Feb. 23, 1948). Author and publisher and inventor of the Gregg system of shorthand.

Griffin, James Aloysius (b. Chicago, Ill., Feb. 27, 1883—d. Springfield, Ill., Aug. 5, 1948). Bishop of the Roman Catholic Diocese of Illinois since 1924, the year of his consecration. Ordained in 1909 upon graduation from the Propaganda University in Rome; instituted numerous social welfare programs in his diocese.

Griffith, David Wark (b. La Grange, Ky., Jan. 22, 1875—d. Hollywood, Calif., July 23, 1948). Pioneer motion picture producer and co-founder of United Artists (1919). Of the nearly 500 pictures which he produced, *The Birth of a Nation*, *America*, *Intolerance*, *Abraham Lincoln*, and *The Struggle* were the most outstanding.

Grzesinski, Albert C. (b. Treptow am Tollensee, Germany, July 28, 1879—d. Queens, L.I., Jan. 1, 1943). Politician, trade union official, and police president of Berlin, 1925-26, 1930-33. A leader in the Social Democratic Party and a strong supporter of the Weimar Republic, he served as Minister of the Interior, 1926-30.

Gumry, Alexander (b. Lenoirville, N.C., Oct. 17, 1890—d. Knoxville, Tenn., Oct. 19, 1948). Educator, civic leader, and vice chancellor and president of the University of the South since 1938. Sometime president, University of Chattanooga (1929-38) and headmaster of Baylor School (1919-29).

Gunther, Ernest Ludolph (b. Louisville, Ky., Sept. 7, 1887—d. Menlo Park, Calif., Mar. 27, 1948). Rear Admiral, USN, who led the offensive in the Solomon campaign as air commander of the Pacific Fleet.

Hagenbeck, Carl Lorenz (b. Hamburg, Germany, 1908—d. Hamburg, Germany, Nov. 27, 1948). Head of the world-famous circus in Hamburg, Germany, where wild animals are shown in their natural habitat instead of in cages. More than a hundred zoological gardens and circuses, including Barnum's, were supplied with wild animals by the firm.

Hagood, Johnson (b. Orangeburg, S.C., June 16, 1873—d. Charleston, S.C., Dec. 22, 1948). Major General AUS (retired), and the author of several books, and many articles on the Army and Army life. During World War I he served as supply chief in France and in 1936 was disciplined for criticism of the WPA.

Haines, Charles Grove (b. Lincoln, Md., Sept. 20, 1879—d. Laguna Beach, Calif., Dec. 27, 1948). Political scientist, educator, and nationally known authority on American jurisprudence. Since 1925 a faculty member at the University of California; 1914-25 at the University of Texas; and sometime visiting lecturer at Harvard. Author of *The American Doctrine of Judicial Supremacy*, *Principles and Problems of Government*, *Revised of Natural Law Concepts*, etc.

Hall, Weston Bert (b. 1886—d. Fremont, Ohio, Dec. 6, 1948). Soldier of fortune, flier, and one of the founders of the famous Lafayette Escadrille (1914). Various flew for Turkey, Bulgaria, Russia, and as "General Chang" commanded the Chinese Air Force. He was co-author of *One Man's War*.

Hambleton, William Henry Smith, 3d Viscount (b. England, July 25, 1903—d. London, England, Mar. 31, 1948). Governing director of W. H. Smith & Son, Ltd., the world's largest booksellers.

Hammarstein, Elaine (b. 1898—d. Tia Juana, Mexico, Aug. 13, 1948). Actress of the silent films (1918-26). She was seen in the following motion pictures: *The Girl from Nowhere*, *Reckless Youth*, *Greater than Fame*, etc. In private life the wife of James W. Kays.

Hardy, Charles Oscar (b. Island City, Mo., May 2, 1884—d. Washington, D.C., Nov. 30, 1948). Noted economist, educator, author, and banker. Since 1947 he served as staff director for the Joint Congressional Committee on the Economic Report; as a member of the Brookings Institution research staff, 1924-48, he was a frequent adviser to the Government on economic problems. From 1943-46 he was vice president of the Federal Reserve Bank of Kansas City. He had taught at various universities and was the author of *Risk and Risk Bearing*, *Is There Enough Gold?*, and *War Time Control of Prices*, etc.

Harris, Basil (b. Pullman, Ill., Oct. 31, 1889—d. New York, N.Y., June 18, 1948). Chairman of the board, United

States Lines, since 1945; president, 1942-45; partner in Roosevelt Steamship Company, 1923-39; and a director of American Merchant Marine Institute, 1943-45. Served as assistant secretary of the Treasury, 1939-40.

Harrison, Mary Scott Lord (b. Honesdale, Pa., Apr. 30, 1858—d. New York, N.Y., Jan. 5, 1948). Widow of the late President Benjamin Harrison, to whom she was married on Apr. 6, 1896.

Hausegger, Siegmund von (b. Graz, Austria, Aug. 16, 1872—d. Munich, Germany, Oct. 14, 1948). Composer and conductor; director of the Akademie der Tonkunst, 1920-34; conductor of the Hamburg Philharmonic Concerts, 1910-20; and sometime conductor at Frankfurt am Main and Berlin. He composed two operas, two symphonic poems, and several songs, including *Lieder der Liebe*.

Healey, Arthur Francis (b. Somerville, Mass., Dec. 29, 1889—d. Somerville, Mass., Sept. 16, 1948). Lawyer; judge of the United States District Court for Massachusetts, since 1942; and representative to Congress, 1933-42. He was a New Dealer, a member of the Dies Committee, and co-sponsor of the Walsh-Healey Act.

Heelan, Edmond (b. Elton, County Limerick, Ireland, Feb. 5, 1868—d. Des Moines, Iowa, Sept. 20, 1948). Bishop of the Roman Catholic Diocese of Sioux City, Iowa, since 1920; and since 1940 assistant to the Pontifical Throne.

Heine, Thomas Theodor (b. Leipzig, Germany, Feb. 28, 1867—d. Stockholm, Sweden, Jan. 27, 1948). Painter, political cartoonist, and co-founder and director of the famous periodical *Simplicissimus*.

Helena Victoria (Louise Sophie), Princess (b. Windsor, England, May 3, 1870—d. London, England, Mar. 13, 1948). Daughter of Prince Frederick Christian of Schleswig-Holstein and Princess Helena of Great Britain, 3d daughter of Queen Victoria.

Hersey, Henry Blanchard (b. Williamstown, Vt., July 28, 1861—d. Sierra Madre, Calif., Sept. 24, 1948). Colonel, AUS (retired), meteorologist, and pioneer balloonist. With General Lahm, won the Gordon Bennett cup in the international balloon race at Paris in 1906. He served with the United States Weather Bureau, 1905-1912, with the Balloon Division in France, 1918-19; and with the Roosevelt Rough Riders in the Spanish-American War.

Hershbein, Peretz (b. Kletshell, Lithuania, 1881—d. Los Angeles, Calif., Aug. 16, 1948). Noted Hebrew author, lecturer, and playwright. His play *Green Fields* was adapted to the screen; other plays were *Once Upon a Time and Child of the World*; *Erez Israel*.

Herzfeld, Ernst Emil (b. Hanover, Germany, July 23, 1879—d. Basle, Switzerland, Jan. 21, 1948). Internationally famous archaeologist and authority on Babylonian history, who led several expeditions to the site of ancient Babylonia, where he made valuable excavations. Sometime professor at the Institute for Advanced Study at Princeton (1936-44) and at the University of Berlin (1920-35). Author of *Iran in the Ancient East*, *Iranische Denkmäler*, *Zoroaster and His World*, etc.

Hidayatallah, Khan Bahadur Shaik Ghulam Hussain (b. India, January, 1879—d. Karachi, Pakistan, Oct. 4, 1948). Lawyer, politician, and governor of the province of Sind since August, 1947. Since the constitution of 1935, he was a leading force in the province, serving as Prime Minister in 1937-38 and 1942-46. Sometime member of the executive council, 1928-34; minister in the government of Bombay, 1921-28; and in the Bombay legislative council, 1912-20.

Hill, Louis Warren (b. St. Paul, Minn., May 19, 1872—d. St. Paul, Minn., Apr. 27, 1948). Railway official; succeeded his father James J. Hill as president, later chairman of the board of the Great Northern Railway, 1907-29.

Hill, Sir George Francis (b. Berhampur, India, Dec. 22, 1887—d. London, England, Oct. 20, 1948). Scholar, author, and director of the British Museum, 1931-36. A member of the museum staff since 1893 and a leading authority in the field of numismatics. A fellow of the British Academy, he edited the *Journal of Hellenic Studies*, 1898-1912; and the *Numismatic Chronicle*, 1912-30. His writings include *Corpus of Italian Medals before Cellini*, *History of Cyprus*, *Treasure Trove*, etc.

Hilton, Henry Hoyt (b. Cambridge, Mass., Apr. 17, 1868—d. N. Tewksbury, Mass., Apr. 10, 1948). A member of the publishing firm of Ginn & Co., 1890-1946, variously serving as president and chairman of the board.

Hinds, Samuel Southey (b. Brooklyn, N.Y., Apr. 4, 1875—d. Pasadena, Calif., Oct. 13, 1948). Lawyer, character actor, and co-founder of the Pasadena Community Playhouse. His best known film roles were in *Little Women*, *You Can't Take It with You*, *Call Northside 777*, and *The Boy with Green Hair*.

Hirotaka, Koki (b. Fukwoka-ken, Japan, February, 1878—d. Tokyo, Japan, Dec. 23, 1948). Diplomat, ambassador to the U.S.S.R., 1930-32; Prime Minister, 1936-37; Foreign Minister, 1937-38. Given the death sentence by the International Military Tribunal on Nov. 12, 1948, he was hanged as a war criminal.

Hjort, Johan (b. Oslo, Norway, Feb. 18, 1869—d. Oslo, Norway, Oct. 7, 1948). Internationally known marine biologist; director of fisheries, 1900-17; and professor of marine biology at the University of Oslo since 1921. He held honorary degrees from several universities and was a fellow of the Royal Society of Great Britain.

Hlond, August (b. Breckowicz, Poland, July 5, 1881—d. Warsaw, Poland, Oct. 22, 1948). Cardinal, Metropolitan of Warsaw, and Primate of Gniezno. Ordained 1905, elevated to bishop, 1923; to Primate of Poland, 1926, and elected to the Sacred College in 1927. An outspoken foe of dictators, he was interned by the Germans in 1944, liberated by the American 9th Army, 1945, and reinstated in July, 1945. In 1931 he was named Spiritual Protector of Polish Emigrants Abroad.

Hofmeyr, Jan Hendrik (b. Capetown, South Africa, Mar. 20, 1894—d. Pretoria, South Africa, Dec. 3, 1948). Statesman, educator, and a leading Liberal. A member of the Union House of Assembly since 1929; minister of Finance and Education, since 1939; minister of Mines, 1936-38; minister of the Interior, 1933-36; and administrator of Transvaal, 1924-29. Sometime professor at the University of Witwatersrand (1917-24), principal (1919-24), and chancellor since 1938.

Hope, Walter Ewing (b. Bristol, Pa., Sept. 15, 1879—d. New York, N.Y., Aug. 16, 1948). Lawyer, politician, and Assistant Secretary of the Treasury, 1929-31. A member of the New York State Banking Board, since 1945; president of the Princeton Club, 1924-27; of the University Club, 1934-39; and active in Republican Party affairs.

Howell, Julius Franklin (b. Jan. 17, 1846—d. Bristol, Va., June 19, 1945). Former Commander-in-chief of the United States Volunteers; presumed last survivor of General Longstreet's command.

Hughes, Charles Evans (b. Glens Falls, N.Y., Apr. 11, 1862—d. Osterville, Mass., Aug. 27, 1948). Lawyer, statesman, and Chief Justice of the United States, 1930-41. During his long public service he was governor of New York, 1907-10; Secretary of State, 1921-25; member of the Permanent Court of Arbitration, 1926-30; and judge of the Permanent Court of International Justice, 1928-30. In 1916 he was the Republican nominee for president, losing the election to Woodrow Wilson, 277 to 254.

Huidobro, Vicente (b. Santiago, Chile, Jan. 27, 1898—d. Santiago, Chile, Jan. 2, 1948). Diplomat, poet, and writer; European war correspondent, 1943. Founder, in Paris, of the reviews, *Nord-Sud* and *Creation* (1916); in Chile, of the daily newspaper *Acción* (1919). Author of poetry, short stories, etc.

Hume, Robert Ernest (b. Ahmednagar, India, Mar. 20, 1877—d. New York, N.Y., Jan. 4, 1948). Internationally recognized authority on living religions and author of *The World's Living Religions*. Ordained a Congregational minister in 1905; professor at Union Theological Seminary, 1914-43.

Hunter, Merlin Harold (b. Chandlerville, Ohio, Aug. 29, 1887—d. Chicago, Ill., May 31, 1948). Economist, tax expert, author, and head of the department of economics at the University of Illinois since 1938. He wrote *Outlines of Public Finance*; *Outline of the Economic History of the United States*; *Finance, Commerce, and Industry*, etc.

Husch, Richard Gerard (b. New York, N.Y., 1876—d. New York, N.Y., July 2, 1948). Poet, critic, who under the name of Richard Gerar composed the popular *Sweet Adelaide*.

Hussein, Abdel Kader el (d. Kastel, Palestine, April, 1948, aged 40). Arab soldier, chief of the Palestine Arab National Guard, killed in week-old battle for Kastel. A cousin of the exiled Mufti, he had served with the British Mandate government in Palestine; participated in the Iraqi revolt in 1941; and joined the Mufti in Egypt in 1946.

Hymer, Warren (b. New York, N.Y., Feb. 25, 1906—d. Los Angeles, Calif., Mar. 26, 1948). Motion picture actor since 1928. His best known roles were those in *Little Miss Marker*, *Meet John Doe*, *Three is a Family*, and *Gentleman Joe Palooka*.

Imam Yahia. See *Yahya Muhammad Hamid ed Dtn*.
Imamura, Akitsune (b. Kagoshima-ken, Japan, June, 1870—d. Seijo Setagaya, Japan, Jan. 2, 1948). Famous seismologist, a member of the Imperial Academy, and professor at the University of Tokyo.

Irvine, E. Eastman (b. Cresco, Iowa, Mar. 6, 1888—d. Staten Island, N.Y., Sept. 23, 1948). Newspaperman, and since 1937, editor of the *World Almanac*. Sometime news editor of the *World Telegram* and editor of the *Philadelphia Public Ledger*.

Irwin, William Henry (b. Oneida, N.Y., Sept. 14, 1873—d. New York, N.Y., Feb. 23, 1948). Newspaperman, author, and playwright. War correspondent for the *Saturday Evening Post*, 1916-18. He wrote *Old Chinatown*, *The House of Mystery*, *A Reporter in Armageddon*, *The Making of a Reporter*, etc. *The Thirteenth Chair* (with B. Veiller) was his most successful play.

Isaacs, Sir Isaac Alfred (b. Melbourne, Australia, Aug. 6, 1855—d. Melbourne, Australia, Feb. 11, 1948). Lawyer, statesman, and Governor General of Australia, 1931-36. He variously served in the Legislative Assembly, 1892-1901; in the Commonwealth Parliament, 1901-06; as Attorney General, 1905-06; Justice of the High Court, 1906-30; Chief Justice, 1930-31.

Jackson, Holbrook (b. Liverpool, England, Dec. 31, 1874—d. Bournemouth, England, June 16, 1948). Author, journalist, and editorial director of the *National Trade Press*, 1917-45. Noted for his critical and historical studies of literature, including a study and bibliography of Fitzgerald's Omar Khayyam; a biography of *Bernard Shaw*, in

which he coined the word "Shavian"; and a life of *William Morris*. Also wrote *All Manner of Folk*, *The Anatomy of Bibliomania*, *The Reading of Books*, etc.

Jackson, John Long (b. Baltimore, Md., Mar. 28, 1884 --d. Winchester, Va., Sept. 3, 1938). Bishop of the Protestant Episcopal Diocese of Louisiana, since 1930.

Jacobs, Josephine (b. New York, N.Y., 1875 --d. New York, N.Y., Nov. 13, 1948). Contralto, sometime member of the Metropolitan Opera Company. Her roles included those of Maddalena in *Rigoletto*, Amneris in *Aida*, Suzuki in *Madame Butterfly*, and Siebel in *Faust*.

Jarvis, Anna M. (b. Chalfont, W. Va., May 1, 1864 --d. West Chester, Pa., Nov. 24, 1948). Founder of Mother's Day observance. Following its official adoption in 1914, she fought bitterly against the encroachment of commercialism upon a day which she regarded with great sentimentality.

Jinnah, Mahomed Ali (b. Bombay, India, Dec. 25, 1876 --d. Karachi, Pakistan, Sept. 11, 1948). Lawyer, politician, and Governor General of Pakistan since its establishment, Aug. 15, 1947. The "Quaid-i-Azam" (Great Leader) was president of the Muslim League, 1916, 1920, and 1934-48, and fought for partition since first announcing his plan before the Muslim League in 1940. He was a delegate to the Round Table Conference, 1930, and the author of *Pakistan*.

Johnson, Charles Henry (b. Brooklyn, N.Y., Oct. 13, 1870 --d. New York, N.Y., Oct. 28, 1948). Social worker and New York State Commissioner of Welfare, 1916-32. He was a member of the State Welfare Board (1933-41) and served as deputy warden of Sing Sing Prison (1914-15). A 33° mason, he was past Grand Master of New York State (1930-32), and had held nearly every office in the Grand Lodge.

Jones, Claud Ashton (b. Fire Creek, W. Va., Oct. 7, 1885 --d. Charleston, W. Va., Aug. 8, 1948). Rear Admiral USN (retired). At various times served in the Bureau of Education, Washington, D.C., as director of the Naval General Experiment Station at Annapolis (1944-46).

Jones, Guy Carleton (b. Halifax, Nova Scotia, 1888 --d. Johannesburg, South Africa, Dec. 3, 1948). Metallurgist, chairman of the Transvaal Chamber of Mines, and until his retirement in 1947, director of the Consolidated goldfields.

Jones, Rufus Mathew (b. South China, Me., Jan. 25, 1863 --d. Haverford, Pa., June 16, 1948). Quaker educator and author; founder and chairman of the French Service Committee, 1917-27, 1934-41. He was professor of philosophy and ethics at Haverford College, 1904-34. Internationally known authority on mysticism and the author of many books on Quaker history and religion, among them: *The World Within*, *The New Quest*, *The Luminous Trail*.

Kahn, Florence Prag (b. Salt Lake City, Utah, 1866 --d. San Francisco, Calif., Nov. 16, 1948). Republican congresswoman from San Francisco, Calif., 1925-37, and the first woman member of the Military Affairs Committee and of the Appropriations Committee.

Karabekir, Kazim (b. Istanbul, Turkey, 1882 --d. Ankara, Turkey, Jan. 26, 1948). Army general, leader Republican People's party, and since 1946, president of the National Assembly.

Kelley, Francis Clement (b. Vernon River, Canada, Oct. 23, 1870 --d. Oklahoma City, Okla., Feb. 1, 1948). Roman Catholic bishop of Oklahoma City and Tulsa since 1930. Ordained a priest in 1893 and consecrated a bishop in 1924. Founder (1905) and president of the Catholic Church Extension Society in the U.S.A.

Kennedy, Edgar (b. Monterey County, Calif., 1890 --d. San Fernando, Calif., Nov. 9, 1948). Film comedian and one of the original Keystone cops. Since his debut in *The Fetter* '06, he had played in some 500 films, including: *Kid Millions*, *A Star Is Born*, *Son of the Border*, *Anchors Aweigh*, and the *Mr. Avery* *Man* series.

Kheir, Hashim Pasha (d. Amman, Transjordan, Aug. 31, 1948). Politician and minister of the Interior of Transjordan. Sometime member of the Senate and son of the first mayor of Amman.

Kikuchi, Kan (b. Takamatsu, Japan, December, 1889 --d. Tokyo, Japan, Mar. 6, 1948). Publisher, playwright, novelist, and leader of neo-realistic group. Founder of a monthly review *Bunrei Shunju-sha* (1923); sometime on the editorial staff of *Osaka Mainichi* and *Jiji*.

Kirk, John (b. Wilmington, Del., 1862 --d. New York, N.Y., May 23, 1948). Veteran character actor who created the role of Judge Gaffney in *Harvey*, a role he had played since 1944. Toured the vaudeville circuit with his wife Fay Baker.

Klatzkin, Jacob (b. Lithuania, 1882 --d. Vevey, Switzerland, Mar. 28, 1948). Philosopher, author, and professor of the College of Jewish Studies, Chicago. Co-founder of Eschkol publishing house in Berlin (1923) and chief editor of the *Encyclopedia Judaica*. Author of a score of books in Hebrew, German, and English including *Spinoza: his Life, Work and Teachings*; *In Praise of Wisdom*; and *Judenfrage der Gegenwart*.

Kmetko, Karol (b. Dolná Držkovice, Czechoslovakia, Dec. 12, 1875 --d. Nitra, Czechoslovakia, Dec. 22, 1948). Roman Catholic archbishop of Nitra since 1921. Ordained in 1899 and consecrated a bishop in 1921, he worked for a union of the Oriental with the Roman Catholic Church.

Knight, Louis Aston (b. Paris, France, 1878 --d. New York, N.Y., May 8, 1948). Landscape painter represented in many European and American collections, including the Luxembourg, Hamilton, Toledo, Newark, etc.

Knipp, Charles Tobias (b. New York, N.Y., Aug. 13, 1869 --d. Ames, Iowa, July 6, 1948). Inventor, and professor emeritus, University of Illinois, 1900-1937. He invented an alpha-ray track apparatus, a cold cathode rectifier, etc.

Knudsen, Signius Wilhelm Poul. See *Knudsen, William S.*
Knudsen, William S. (b. Copenhagen, Denmark, Mar. 25, 1879 --d. Detroit, Mich., Apr. 27, 1943). Industrialist; director of production, War Department, 1942-43; and president (since 1937), former vice president (1933-37), of the General Motors Corporation. Mr. Knudsen, who came to the United States in 1902, was regarded as a production genius.

Koch, Fred Conrad (b. Chicago, Ill., May 16, 1876 --d. Chicago, Ill., Jan. 26, 1948). Biochemist, pioneer in hormone experiments, and research chemist with Armour & Co., since 1942. Associated with the University of Chicago, 1912-41, being chairman of the Department of Biochemistry, 1926-41.

Koczkowski, Ryszard Armand G. (b. Warsaw, Poland, Jan. 3, 1885 --d. Warsaw, Poland, Nov. 25, 1948). Concert pianist and composer. Tuned Europe as a child prodigy; appeared in London in 1893; and gave a total of some 4,000 concerts. Compositions include two operas, and works for piano.

Kolodny, Anatole (b. Kazan, Russia, Nov. 23, 1892 --d. New York, N.Y., July 8, 1948). Surgeon and internationally known dermatologist, famous for his work in bone anatomy and pathology. Sometime connected with the Berlin Pathological Institute, Rockefeller Institute, University of Iowa Medical School, and the University of Illinois.

Koch, William Warren. See *William Warren*.

Kronfeld, Robert (b. Vienna, Austria, 1905 --d. Alton, Hampshire, England, Feb. 12, 1948). Squadron leader in the RAF and the world's foremost "blind" authority. He was the first man to glide over the English Channel both ways and during World War II helped plan many glider operations. Death resulted from a glider crash.

Kütz, Wilhelm (b. Bonn, Germany, Feb. 18, 1875 --d. Berlin, Germany, Apr. 10, 1948). Statesman and politician. Co-founder and leader of the Liberal Democratic Party in the Russian zone of Germany, 1945. Minister of the Interior, 1926; with the League of Nations, 1927-31.

Kutch, Maharaj Kumar Shri Vijayrajii, Maharao (b. Kutch, 1885 --d. Bhuli, Kutch, Feb. 27, 1948). Ruler of Kutch and head of the Jadeja clan. He ascended the Gadi in 1942, upon the death of his father, and was noted for his progressive administration. With the rank of Lieutenant Colonel he was a member of the National Defense Council of India, 1944-45.

Laird, Thomas Gold (b. Cahoon, Ill., Feb. 17, 1866 --d. Mount Vernon, N.Y., Feb. 13, 1948). Lawyer, author, and founder of the Camp Fire Club (1910). He wrote *The French Constitution of 1793*, *New York Corporations*, *Federal Income Tax*, etc.

Laird, Warren Powers (b. Winona, Minn., Aug. 8, 1861 --d. Bryn Mawr, Pa., Feb. 18, 1948). Architect and first dean of the School of Fine Arts, University of Pennsylvania, 1920-32. He represented the United States at 3d Pan American Congress of Architects, 1927; and served as chairman of the jury for art competition, 10th Olympiad, 1932.

Lake, Everett John (b. Woodstock, Conn., Feb. 8, 1871 --d. Hartford, Conn., Sept. 16, 1948). Business executive; Governor of Connecticut, 1931-38; Lieutenant Governor, 1907-09; and since 1900 active in Republican state politics.

Lamb, Gene (b. Washington, D.C., 1894 --d. Los Angeles, Calif., Aug. 19, 1948). Explorer, author, and lecturer, who spent nearly 30 years in China and Tibet. In northern Tibet he mapped previously unknown areas, and in 1923-28, crossed part of the Ala Shan desert in Mongolia. In 1931 he led an expedition which made the first successful ascent of a 24,000 ft. peak in the Himalayas.

Lamond, Frederic (b. Glasgow, Scotland, Jan. 28, 1868 --d. Stirling, Scotland, Feb. 21, 1948). Concert pianist and composer; pupil of Liszt; made his debut in Berlin, 1885, and in London, 1886. Famed as interpreter of Beethoven's later compositions. His works include a symphony, sonatas, overtures.

Lamont, Robert Patterson (b. Detroit, Mich., Dec. 1, 1867 --d. New York, N.Y., Feb. 19, 1948). Civil engineer, business executive, and secretary of Commerce, 1930-32. He headed the American Iron and Steel Institute, 1932-33; and the American Steel Foundries, 1919-29.

Lamont, Thomas William (b. Claverack, N.Y., Sept. 30, 1870 --d. Boca Grande, Fla., Feb. 2, 1948). Financier; chairman of the board, J. P. Morgan & Co., since 1943 and associated with that firm since 1911. Owned the *New York Evening Post*, 1918-20. Frequently represented the United States in financial matters with foreign powers. Author of *My Boyhood in a Parsonage* and *Henry P. Davison, The Record of a Useful Life*.

Lendi, Elissa (b. Venice, Italy, Dec. 6, 1904 --d. Kingston, N.Y., Oct. 21, 1948). Stage, screen, and radio actress whose real name was Elizabeth Marie Christine Zaccardi-Landi. She made her London stage debut in *Storm* (1924), later playing in *Loveland Ladies*, *The Constant Nymph*,

etc. The feminine lead in *Farewell to Arms* (1930), was her first Broadway appearance; and *Body and Soul* her first screen contract in America.

Landis, Carole (b. Fairchild, Wisc., Jan. 1, 1919—d. Hollywood, Calif., July 5, 1948). Film actress who gained star billing in 1940, in *One Million B.C.* Most recently seen in *Four Jills in a Jeep*, *Behind Green Lights*, etc. Her real name was Frances Lillian Mary Ridste.

Lane, Alfred Church (b. Boston, Mass., Jan. 29, 1863—d. Cambridge, Mass., Apr. 16, 1943). Geologist, educator, and pioneer nuclear physicist; professor at Tufts College, 1909-35. Associated with the National Research Council, since 1922.

Lang, Georgi Flodorovich (b. Petrograd, Russia, July 16, 1875—d. Leningrad, U.S.S.R., July 26, 1948). Leading Soviet therapist and director of the clinic for internal diseases, Pavlov Medical Institute, since 1924.

Lang, (Alexander) Joseph (b. Montreal, Canada, May 15, 1879—d. Bridgetown, Barbados, Apr. 11, 1948). Famous Shakespearean actor-producer who made his London debut in 1900, in *Henry V.* Later seen with Ellen Terry and Lilly Langtry. Toured America and Canada, 1926-27, in *The Wandering Jew*.

Latta, Maurice C. (b. Westmoreland Co., Pa., Oct. 18, 1869—d. Washington, D.C., Apr. 3, 1948). Executive clerk at the White House since 1900, he served under nine presidents.

Lauber, Joseph (b. Westphalia, Germany, 1854—d. New York, N.Y., Oct. 18, 1948). Painter, etcher, illustrator, sculptor, and a member of the National Society of Mural Painters. He designed more than a score of stained glass windows, and between 1931-34, taught at Columbia University.

Lawler, John J. (b. Rochester, Minn., 1862—d. Rapid City, S.D., Mar. 11, 1948). Roman Catholic bishop of Rapid City since 1930; bishop of Lead, S.D. 1916-30. Ordained in 1885; consecrated in 1916.

Lawrence, Richard Wesley (b. New York, N.Y., May 7, 1878—d. New York, N.Y., Oct. 7, 1948). Corporation official; board chairman of the Aeolian American Corporation; board chairman and sometime president of the Printers Ink Publication Corporation; and chairman of the board of YMCA.

Leahy, George A., Jr. (b. May 23, 1902—d. Lowell, Mass., Nov. 22, 1948). Rear Admiral, USN (retired), served as executive officer on the *Iowa* in World War II, and was skipper of Roosevelt's yacht the *Potomac*, during secret wartime meeting with Winston Churchill.

Lebedev-Poliansky, Pavel Ivanovich (b. Russia, 1882—d. Moscow, U.S.S.R., Apr. 7, 1948). Soviet politician, literary critic, and director of the Institute of Literature. Sometime censor, Department for Supervision of Literature and Publications; professor of Literature, Moscow University, 1923-25; and a member of the presiding council, People's Commissariat for Education, 1917-31.

Ledoux, Louis Vernon (b. New York, N.Y., June 6, 1880—d. New York, N.Y., Feb. 25, 1948). Author and art collector; owner of one of the finest collections of Japanese prints in America. In 1932 he donated collection of Japanese robes to the Metropolitan Museum. He wrote *Songs from the Silent Land*, *The Shadow of Etna*, *The Art of Japan*, *Harunobu and Shunsho*, etc. President, Society for Japanese Studies.

Lee, Edwin F. (b. Eldorado, Fayette Co., Iowa, July 10, 1884—d. Rochester, Minn., Sept. 14, 1948). Methodist bishop of Singapore and Manila, 1928-48; he entered the missionary field in 1911 after having served various parishes in the United States. Served as chaplain in the U.S. Army, 1917-19, and in 1944, became director of Protestant work for Army and Navy chaplains.

Lee, William C. (b. Dunn, N.C., Mar. 17, 1895—d. Dunn, N.C., June 25, 1948). Major General, USA, retired; commander of airborne troops, 1942-45; and internationally known for his role in the invasion of Europe.

Lehar, Franz (b. Komarom, Hungary, Apr. 30, 1870—d. Bad Ischl, Austria, Oct. 24, 1948). Conductor, band leader, and composer of operettas. Besides the world-sweeping *Merry Widow*, first produced in Vienna in 1905, and since performed more than 5,000 times throughout the world, he composed *Gypsy Love*, *Paganini*, *The Land of Smiles*, etc.

Léner, Jenő (b. Szabadka, Hungary, June 24, 1871—d. New York, N.Y., Nov. 4, 1948). Violinist, founder and leader of the world-famous string quartet bearing his name. Until 1918 he was a soloist with the Budapest Philharmonic; in 1919 the ensemble made its debut in Budapest, later concerting all over the world.

Leonard, Robert (b. Poland, Feb. 22, 1888—d. New York, N.Y., Jan. 5, 1948). Actor and vaudevillian; the Mawruss of the *Potash and Perlmutter* team. Made London debut in 1914, and was an immediate success. He was also seen in *Golden Boy*; *Wonder Boy*; *Red, Hot, and Blue*; and *Abie's Irish Rose*.

Lewis, George William (b. Ithaca, N.Y., March 10, 1882—d. Lake Winola, Pa., July 12, 1948). Aeronautical engineer, since 1919 director of the National Advisory Committee for Aeronautics. Awarded the Daniel Guggenheim Medal (1936) for his contribution to aeronautical research.

Lewis, Ira F. (b. Lexington, N.C., Aug. 25, 1884—d. New York, N.Y., Aug. 28, 1948). Publisher of the *Pittsburgh Courier*, since 1940, and associated with that paper since 1914.

Lewisohn, Edna May Pettie. See *May, Edna*.

Liebman, Joshua Loth (b. Hamilton, O., Apr. 7, 1907—d. Boston, Mass., June 9, 1948). Rabbi, educator, and author of the widely-read *Peace of Mind*. Ordained in 1930, he served as rabbi of Temple Israel, Brookline, Mass.; visiting professor of Jewish philosophy at Andover-Newton Theological Seminary, since 1944; lecturer at Bangor Theological Seminary, 1945. His weekly radio broadcasts (1939-46) were on a national hook-up.

Lindley, Werner Lipschuetz (b. Berlin, Germany, Mar. 23, 1892—d. Pearl River, N.Y., Feb. 1, 1948). Internationally known biochemist and pharmacologist; researcher with the American Cyanide Company, 1940-47; director, Institute of Biochemistry, University of Istanbul, 1933-38; and chief, department of pharmacology, University of Frankfurt (Germany), 1923-33.

Lindsay, Anna Robertson Brown (b. Washington, D.C., Feb. 20, 1864—d. New York, N.Y., Feb. 28, 1948). Author of religious books and the first woman to receive a Ph.D. degree from the University of Pennsylvania. Trustee of Wellesley College, 1906-18. Her many books include *What Is Worth While*, *Culture and Reform*, *The Warriors*, etc.

Lindsey, Julian R. (b. Georgia, Mar. 16, 1871—d. Washington, D.C., June 27, 1948). Major General, USA; commander at Fort Knox, Ky., 1932-34.

Lingen, Count von. See *Adalbert Ferdinand Berengar Victor*, Prince of Prussia.

Littlefield, Walter (b. Boston, Mass., Mar. 17, 1867—d. New Canaan, Conn., Mar. 25, 1948). Author, journalist, and sometime foreign editor of the *New York Times*, with which paper he was associated from 1909-1942. Authority on the Dreyfus case and author of *The Trial of Dreyfus*, *The Men of Silence* (with L. Frongione), etc.

Livingston, Burton Edward (b. Grand Rapids, Mich., Feb. 9, 1875—d. Baltimore, Md., Feb. 8, 1948). Internationally known botanist associated with Johns Hopkins University, 1909-40; from 1913-40, director of the laboratory of plant physiology. Invented and improved many scientific instruments and contributed widely to scientific journals.

Ljungström, Birger (b. Öddevalla, Sweden, June 4, 1872—d. Stockholm, Sweden, Nov. 22, 1948). Mechanical engineer, inventor, and designer of the first steam turbine. Experiments began in 1894 and in 1913 he established the renowned Swedish Turbine Company. Ljungström. Sometime associate of Alfred Nobel. Awarded Adelskilda Medal of the Swedish Academy of Science (1914) which until then had only been awarded to Thomas A. Edison.

Lockridge, Ross Franklin, Jr. (b. Bloomington, Ind., Apr. 25, 1914—d. Bloomington, Ind., Mar. 6, 1948). Educator and author of the bestseller *Raintree Country* which received the MGM semi-annual novel award for 1947.

Lomax, John Avery (b. Goodman, Miss., Sept. 23, 1867—d. Greenville, Miss., Jan. 26, 1948). Author and folklorist. Since 1934 honorary curator and honorary consultant, Library of Congress; president of the American Folklore Society, 1912, 1913; founder of the Texas Folklore Society. With Alan Lomax, author of *American Ballads and Folk Songs*, *Negro Folk Songs*, *Our Singing Country*. Author also of *Cowboy Songs*, *Adventures of a Ballad Hunter*, etc., and associate editor of *Southwest Review* since 1943.

Loomis, Francis Butler (b. Marietta, Ohio, July 27, 1861—d. Burlingame, Calif., Aug. 4, 1948). Diplomat, statesman, and first assistant secretary of State, 1902-05. He variously served as minister to Venezuela, Portugal, and as envoy extraordinary to Japan.

Loring, Richard Tuttle (b. Newton, Mass., Feb. 7, 1900—d. Springfield, Ill., Apr. 16, 1948). Bishop of the Protestant Episcopal Diocese of Springfield (Ill.) since 1947; rector of St. David's Church, Baltimore, Md., 1937-47.

Lowe, Percy Reyroff (b. Stamford, Lincolnshire?, Jan. 2, 1870—d. England, Aug. 18, 1948). Internationally known ornithologist, sometime president of the British Ornithological Union, and chairman of the British and European Sections, International Committee for the Preservation of Birds. Made 6 expeditions to collect island forms of birds; was keeper in charge of Ornithology at the British Museum; and the author of *A Naturalist on Desert Islands*.

Ludwig, Emil (b. Breslau, Germany, Jan. 25, 1881—d. Ascona, Switzerland, Sept. 17, 1948). Novelist, political essayist, and poet; best known as the biographer of *Goethe*, *Napoleon*, *Beethoven*, *Voltaire*, *Abraham Lincoln*, and *Three Titans*.

Lumière, Louis (b. Besançon, France, Oct. 5, 1864—d. Bandol, France, June 6, 1948). Industrialist, who with his brother, Auguste is credited with the invention of motion pictures, first shown in 1895. Pioneer in color photography and other photographic processes. Member of Académie des Sciences.

Lunn, George Richard (b. Lenox, Iowa, June 23, 1873—d. Schenectady, N.Y., Nov. 27, 1948). Clergyman, politician, and Democratic representative to the Congress, 1917-19. Achieved prominence when elected first Socialist mayor of Schenectady, 1912-17, 1920-23. Sometime lieutenant governor of New York (1923) and Public Service Commissioner (1925-42).

McCabe, Francis Xavier (b. New Orleans, La., Feb. 6, 1872—d. New Orleans, La., July 2, 1948). Ecclesiastic of the order of the Vincentian Fathers; president of DePaul

University, 1910-20; and widely known as an educator and orator.

McCarty, Raymond (b. Los Angeles, Calif., Sept. 6, 1904—d. Hollywood, Calif., Dec. 1, 1948). Film director, former script writer. Since 1932 a director of features including *Millions in the Air*, *Three Cheers for Love*, *Dangerous Journey*, etc.

McClure, Samuel Grant (b. Wayne County, Ohio, Aug. 9, 1903—d. Santa Monica, Calif., Dec. 25, 1948). Newspaperman, publisher-owner of the *Santa Monica Evening Outlook* since 1932. Sometime manager of the *Ohio State Journal* (1898-1906), publisher of *The Youngstown (Ohio) Telegram* (1906-22), and president of the *Copley newspapers*.

McCall, Dugald Sutherland (b. Glasgow, Scotland, Mar. 10, 1859—d. London, England, Dec. 21, 1948). Art critic, author, painter, sometime keeper of the Wallace Collection (1911-24) and trustee of the Tate Gallery (1917-27), keeper from 1906-11. A contributor to the *Saturday Review*; editor of the *Architectural Review*, 1901-05; and art critic for the *Spectator*, 1890-95. His written works include: *Nineteenth Century Art*, *Confessions of a Keeper* and *Other Papers*, *Wilson Steer*, and *Poems*.

McConaughy, James Lukens (b. New York, N.Y., Oct. 21, 1887—d. Hartford, Conn., Mar. 7, 1948). Educator, politician, and Republican governor of Connecticut since January, 1946. He variously served as president of Wesleyan University, 1925-43, and of Knox College, 1943-25.

McCracken, John Henry (b. Rochester, Vt., Sept. 30, 1875—d. New York, N.Y., Feb. 1, 1948). Educator and president of Lafayette College, 1915-26. He was acting chancellor of New York University, 1910-11, and professor of politics, 1903-15. A leader in World Conference of Churches.

McCune, George M. (b. Pyongyang, Korea, June 16, 1908—d. Martinez, Calif., Nov. 5, 1948). Educator and noted authority on Far Eastern economic and political questions; professor of Far Eastern studies at the University of California. During World War II he variously served with the OSS, with the FEA, and as a Korean Affairs specialist with the Department of State (1944-45).

Macdonald, James Scott (b. New Ferry, Cheshire, England, Sept. 16, 1879—d. England, Oct. 11, 1948). Physician, authority on malaria, and researcher with the West African Medical Staff, 1910-23. From 1923-25 he lectured at the Liverpool School of Tropical Medicine and from 1927-31, at the Medical Research Council. During World War II he worked as a field malarialogist in the Near East; and with an ambulance unit in Abyssinia, 1935-36.

McGavick, Alexander Joseph (b. Fox Lake, Ill., Aug. 22, 1883—d. La Crosse, Wis., Aug. 25, 1948). Bishop of the Roman Catholic Diocese of La Crosse, since 1921. Ordained in 1887, he was consecrated in 1899.

McGraw, James H. (b. Painesville, N.Y., Dec. 17, 1860—d. San Francisco, Calif., Feb. 21, 1948). Dean of industrial publishers; founder of McGraw-Hill Publishing Company (1916); variously its president and chairman of the board.

Macintosh, Douglas Clyde (b. Bradallban, Ont., Canada, Feb. 18, 1877—d. Hamden, Conn., July 6, 1948). Baptist clergyman, author, and educator. A member of the Yale University faculty, 1901-23, he was chairman of the department of religion, 1922-28. Widely known as a lecturer and author on *The Principles of Religious Knowledge*, *The Reasonableness of Christianity*, and *Social Religion*, etc.

McIntyre, Alfred Robert (b. Hyde Park, Mass., Aug. 22, 1886—d. Boston, Mass., Nov. 28, 1948). Noted book publisher and president of Little, Brown & Company since 1926, a member of the firm since 1907.

McKay, Claude (b. Jamaica, W.I., Sept. 15, 1890—d. Chicago, Ill., May 22, 1948). Poet and novelist whose *Home to Harlem* (1928) was an immediate success. Associate editor and contributor to the *Liberator*, 1919-22; more recently research worker with the Catholic Youth Organization. Also wrote *Harlem Shadows*, *Songs of Jamaica*, *Harlem: Negro Metropolis*, and *A Long Way from Home*.

McKee, Edward J. (b. Philadelphia, Pa., 1874—d. Elizabeth, N.J., Dec. 26, 1948). Actor-manager and director of some early films. Best known roles were those of Jonathan in *The Shepherd King*, Marco in *The Light Eternal*, Orlando in *As You Like It*, and George Osborne in *Becky Sharp*.

Magnes, Judah Leon (b. San Francisco, Calif., July 5, 1877—d. New York, N.Y., Oct. 27, 1948). Rabbi, Zionist, and since 1935 president of the Hebrew University in Jerusalem, which he helped found in 1925. From 1912-20 he headed the Society for the Advancement of Judaism and between 1909-22, was chairman of the executive committee of the Jewish Community of New York City.

Mallet-Prevost, Severo (b. Zacatecas, Mexico, Oct. 8, 1860—d. New York, N.Y., Dec. 10, 1948). Lawyer, sometime mining engineer, and a founder (1912) and president (1921-27) of the Pan American Society of the United States. His services were often requested in important litigations involving the United States and foreign governments, notably the case of title to New Mexico and Arizona.

Maloney, Russell (b. Brookline, Mass., 1910?—d. New York, N.Y., Sept. 8, 1948). Humorous writer, on the staff of the *New Yorker*, 1934-45, and head of its "Talk of the

Town" section. More recently he was a radio hook author of *It's Still Maloney, Our Own Paradocker* (w. Kinkhead), and with his wife, *Sleepy Hollow*.

Mann, Alexander (b. Geneva, N.Y., Dec. 2, 1860—d. Geneva, N.Y., Nov. 15, 1948). Clergyman; bishop of Protestant Episcopal Diocese of Pittsburgh, 1923-43 (retired).

Mannes, Clara Damrosch (b. Breslau, Germany, Dec. 1869—d. New York, N.Y., Mar. 16, 1948). Concert pianist and musicologist; co-founder with her husband, Mannes, of the Mannes Music School (1916).

Mantlo, (Robert) Burns (b. Watertown, N.Y., Dec. 1873—d. New York, N.Y., Feb. 9, 1948). Dramatist on the *Daily News*, 1922-44; the *Evening Mail*, 1911 drama correspondent, *Chicago Tribune*, since 1911. / of *American Playwrights of To-day: Contemporary ican Playwrights*; and *A Treasury of the Theatre* (John Gassner). Editor of a yearly collection of *Best* (1899-1945).

Marburg, Otto (b. Roemerstadt, Austria, May 25, 1871—d. New York, N.Y., June 13, 1948). Noted neuro pathologist. He was in the U.S. since 1939, clinician (fession of neurology) at the University of Vienna, 38. His *Ueber die Bedeutung der "Play des Mensch Zentrischen" im Leben*, *Play des Mensch Zentrischen* are regarded as the most important of his scientific books and papers.

Marchetti di Mariaglio, Count Alberto (b. Italy, 1 d. Rome, Italy, Oct. 5, 1948). Diplomat, entered the eign service in 1914, and served as minister to S from 1935 until his forced resignation during World II. He was counselor at the Embassy in Washington, 1927, minister plenipotentiary in 1933, and onetime ambassador to Turkey.

Marcin, Max (b. Posen, Germany, May 6, 1879—d. son, Ariz., Mar. 30, 1948). Dramatic author and pro manager for stage, screen, and radio. Author of *Ar My Wife* (with Roy Atwell), *The House of Glass*, *Live Ghosts*, etc. His radio writings include *The Criminal* and *The F.B.I. in Peace and War* serials.

Marcus, David (b. Brooklyn, N.Y., Feb. 22, 1901—d. Jerusalem, Palestine, June 11, 1948). Soldier, lawyer, supreme commander of the Israeli forces. A West graduate (1924), he served with the rank of Colonel judge advocate's department during World War II, a member of the United States' delegation to the Te Yalta, and Potsdam conferences. In 1940 he served as missioner of Correction in New York City.

Masaryk, Jan Garrigue (b. Prague, Czechoslovakia 14, 1884—d. Prague, Czechoslovakia, Mar. 10, 1937). Statesman, diplomat, and son of the founder and first ident of the Czech republic. Minister of Foreign since 1940; sometime president of the Czech National Council; and head of Czech delegation to the San Francisco Conference, 1945. He began his diplomatic career in his last post being that of minister to Great Britain, 38. Reportedly a suicide.

Mason, Alfred Edward Woodley (b. Dulwich, En 1865—d. London, England, Nov. 22, 1948). Novelist playwright who as A. E. W. Mason published many sellers, including *The Four Feathers* and *The House of Arrows*. Other works were *The Broken Road* and a *Miranda of the Balcams*, produced in New York in 1920.

Mutson, Mrs. Norman. See *Claywell, Susan*.

Maxon, James Matthew (b. Bay City, Mich., Jan. 1 d. Memphis, Tenn., Nov. 8, 1948). Bishop of the lant Episcopal Diocese of Tennessee, 1922-47 (re-chancellor of the University of the South since 1941; president of Margaret College, Versailles, Ky., 1939).

Maxwell, Edwin (b. Dublin, Ireland, 1890?—d. 15; Mass., Aug. 13, 1948). Well-known character ac stage and screen; sometime associate director of the 1 Guild; more recently associated with Cecil B. deMille Broadway appearances included roles in *Doctor's Pil The Donoon Affair*, etc. He played in such pict *All Quiet on the Western Front*, *President Wilson*, a *Jolson Story*.

May, Edna (b. Syracuse, N.Y., Sept. 2, 1878—d. same, Switzerland, Jan. 2, 1948). Musical comed who made her New York debut in 1896, London d 1898, and retired from the stage in 1906, followi marriage to Oscar Lewisohn. Best known role wa *Bella of New York*.

Mayer, Walther (b. Graz, Austria, Mar. 11, 181 Princeton, N.J., Sept. 10, 1948). Mathematician; tor; and a member of the faculty, Institute for Ad Study, Princeton, N.J., since 1933. In 1931 the new stein-Mayer unified-field theory was made public, t sult of a collaboration begun in 1930. Until 1933 a sor in Vienna, his contribution to science was chiefly fields of relativity, topology, and group theory.

Meinzer, Oscar Edward (b. near Davis, Ill., Ne 1876—d. Washington, D.C., June 15, 1948). It tionally known geologist; president of the American physical Union; with United States Geological S 1906-46, since 1912 as chief of ground water d Author of *Our Water Supply*, *Hydrology in Relat Economic Geology*, etc.

Merrick, Marlowe M. (b. 1894—d. Near Salt Lak Utah, Mar. 4, 1948). Brigadier General (retired), a

chief of staff to General Arnold in World War II. General Merrick had down for Poland (1921-22), for Yugoslavia, and for China.

Meynell, Wilfred (b. Yorkshire, England, 1852—d. Pulborough, Sussex, England, Oct. 20, 1948). Journalist, poet, and biographer, who with his poet wife, Alice Thompson, formed a literary partnership in which they discovered and later edited the works of Francis Thompson. They also edited the *Catholic Weekly Register*, 1881-98, and *Merry England*, 1883-95. Meynell was the author of *Benjamin Disraeli*, *Samuel Johnson*, *Journals and Journalism*, and *Rhymes with Reason*, etc.

Micelli, Giuseppe (b. Castelnuovo, Italy, 1876—d. Rome, Italy, Oct. 17, 1948). Politician, minister of the Navy in the second de Gasperi cabinet, and minister of Public works, 1921-22. He was an early leading figure in the Christian Democrat Party.

Michelson, Charles (b. Virginia City, Nev., 1870—d. Washington, D.C., Jan. 8, 1948). Newspaperman, ghost writer, and publicity director for the Democratic National Committee, 1929-40. Following 30 years with the Hearst papers he became chief Washington correspondent for *The New York World*, 1917-29. He wrote *The Ghost Talks*.

Mills, Harry Alvin (b. Paoli, Ind., May 14, 1873—d. Chicago, Ill., June 25, 1948). Economist; chairman of the National Labor Relations Board, 1940-45; and professor emeritus of economics, University of Chicago (1916-38).

Mills, John (b. Vernon Park, Ill., Apr. 13, 1880—d. Rochester, N.Y., June 14, 1948). Electrical engineer, inventor, and author. Associated with Bell Telephone Laboratories, 1915-45, he was director of publication since 1925. He wrote *Within the Atom*; *Electricity, Sound and Light*, etc.

Milne, George Francis, 1st Baron (b. Aberdeen, Scotland, Nov. 5, 1866—d. London, England, Mar. 23, 1948). British field marshal, chief of the Imperial General Staff, 1926-33; governor of the Tower of London, 1933-38; commander of British Forces in Macedonia during World War I.

Minobe, Tatsukichi (b. Japan, 1873—d. Tokyo, Japan, May 24, 1948). Educator, statesman, and privy councillor (since 1946). A member of the Imperial Academy; leading legal authority on the Japanese constitution; consultant on the drafting of the new constitution.

Mitchell, Charles Ainsworth (b. Thetford, Norfolk, England, Nov. 20, 1867—d. London, England, Jan. 5, 1948). Forensic chemist, scientific author, and editor of *The Analyst*. Various president of the Medico-Legal Society (1935-37), vice president, Royal Institute of Chemistry (1937-40), etc. He was the author of *Science and the Criminal*, *The Evidence of the Casket Letters*, *Inks*, *Flower Cameos*, *A Scientist in the Criminal Courts*, etc.

Mitchell, James McCormick (b. Washington, D.C., Sept. 6, 1873—d. Buffalo, N.Y., Oct. 14, 1948). Lawyer, an authority on tax and constitutional law, and a member of the American Law Institute since 1922.

Mitchell, Samuel Chiles (b. Coffeeville, Miss., Dec. 24, 1864—d. Atlanta, Ga., Aug. 20, 1948). Educator, historian, and professor of history and government at the University of Richmond, 1920-45. Sometime president of the University of South Carolina (1908-13), the Medical College of Virginia (1913-14), and of Delaware College (1914-20).

Mitchell, Wesley Clair (b. Rushville, Ill., Aug. 5, 1874—d. New York, N.Y., Oct. 29, 1948). Internationally known economist, author, and professor (emeritus) at Columbia University, 1913-44. A founder and director (1920-45) of the National Bureau of Economic Research; director at the New School for Social Research (1919-31); and a member of many Government boards, including The President's Research Committee on Social Trends (1929-33), National Planning Board (1933), and the National Resources Board (1934-35). Author of *Business Cycles*, *Recent Social Trends*, and *Measuring Business Cycles*.

Moldenhawer, Julius Valdemar (b. Tavastehus, Finland, 1877—d. New York, N.Y., Mar. 31, 1948). Pastor of the First Presbyterian Church, New York, since 1930. He was known as an outstanding preacher. Moderator of the Presbytery, 1936-38, and a director of the Union Theological Seminary. Author of *Patrest Lord Jesus* and *The Voice of Books*.

Möller, (John) Christmas (b. Denmark, Apr. 3, 1894—d. Copenhagen, Denmark, Apr. 13, 1948). Politician, leading conservative, and a member of the Folketing, 1920-41 and 1945-47. As a leader of the Free Danes he headed the Danish Council in London, 1942-45, and served as Foreign Minister in the liberation cabinet (1945).

Montani, Nicola Aloisius (b. Utica, N.Y., 1880—d. Philadelphia, Pa., Jan. 11, 1948). Composer of liturgical music and prominent as a teacher. Founder (1914) of the Society of St. Gregory of America and organizer of the Palestrina Choir (1915). Sometime editor in chief of the liturgical music department of G. Schirmer, and author of *The Art of A Cappella Singing*, etc.

Montero Rodriguez, Juan Esteban (b. Santiago, Chile, Feb. 12, 1879—d. Santiago, Chile, Feb. 25, 1948). Lawyer, educator, and president of Chile, 1931-32.

Moonje, Balkrishna Sheorem (b. India, January, 1872—d. Bombay, India, Mar. 4, 1948). Leading eye specialist and politician. President of Mahasabha, a Hindu organization, banned following the death of Gandhi.

Moore, John Monroe (b. Morzantown, Ky., Jan. 27, 1867—d. Dallas, Tex., July 30, 1948). Noted Methodist clergyman, ordained 1894, elected bishop, 1915, and retired in 1938. A leader in church unity, he was of the Lausanne Conference on World Faith and Order (1927), and of the Edinburgh Conference (1937). Sometime chairman of the executive committee of the Federal Council of Churches (1924-28). Editor of the *Christian Advocate*, 1906-09, and author of *The South Today*, *Evangelism—An Introductory Study*, and *Methodism in Belief and Action*.

Moreno, Marguerite (b. France, 1871—d. Touzac, France, July 14, 1948). Famous actress of the stage and screen who as Lucie Monceau joined the Comedie Francaise in 1890. Last stage appearance was in *Folle de Chaillet* (1948) in which she scored a great hit. Besides her notable success in the film *Le Sex Faible*, she appeared in *Amphytrion*, *La Dame de Pique*, *Carmen*, *The Idiot*, etc.

Morley, Sylvanus Griswold (b. Chester, Pa., June 7, 1883—d. Santa Fe, N.M., Sept. 2, 1948). Archaeologist, specialist on Maya hieroglyphics, and director of the Chichen Itza project for the Carnegie Institution, 1924-40. Sometime leader of expeditions to Central America and Mexico for the School of American Archaeology, 1903-14.

Munch, Peter de Rognesne (b. Redstedt, Denmark, Denmark, July 25, 1870—d. Copenhagen, Denmark, Jan. 12, 1948). Statesman; held various cabinet posts before serving as foreign minister, 1929-40. One of Europe's leading pacifists, member of the League of Nations Council, 1933-36, and president of its Disarmament Committee. He wrote many works on history and economics, and was editor of *Det Nye Aarhundrede*, 1903-19.

Murray, Maxwell (b. West Point, N.Y., June 19, 1885—d. Siasconset, Mass., Aug. 4, 1948). Major General, AUS (retired); during World War II, commanding officer in the South Pacific area, with headquarters at Noumea. He served as military aide to the governor general of the Philippines, 1928-31.

Myers, Victor Caryl (b. Buskirk Bridge, N.Y., Apr. 13, 1883—d. New York, N.Y., Oct. 7, 1948). Noted biochemist and professor of clinical biochemistry at Western Reserve School of Medicine, since 1927. An authority on clinical biochemistry and author of *Essentials of Pathological Chemistry*, *Practical Chemical Analysis of Blood*, and *Laboratory Directions in Biochemistry*. He was associate editor of the *Encyclopedia of Medicine*.

Nash, Charles W. (b. DeKalb County, Ill., Jan. 23, 1864—d. Beverly Hills, Calif., June 6, 1948). Automobile manufacturer; organized the Nash Motors Company, 1916, served as its president until 1930, when he became chairman of the board. Sometime president of the Buick Motor Company, 1910-16, and of the General Motors Company, 1912-16.

Nester, Agnes (b. Grand Rapids, Mich., 1880—d. Chicago, Ill., Dec. 8, 1948). Outstanding woman labor leader; president of the Women's Trade Union League (Chicago) since 1938; and director of Research and Education of the International Glove Workers Union (AFL) since 1918. She also served on numerous Government and State advisory committees.

Newton, John Henry (b. Pittston, Pa., Dec. 13, 1881—d. Fort Ord, Calif., May 3, 1948). Naval officer, Vice Admiral (retired), and inspector general of the Pacific Fleet in World War II.

Nible, Fred (b. York, Neb., Jan. 6, 1874—d. New Orleans, La., Nov. 11, 1948). Motion picture director, actor, and vaudevilian. Began his stage career in 1897, played the vaudeville circuit, 1900-10, returned to the stage, and in 1918 began his film career. He directed some of the leading pictures of the silent era, including *Blood and Sand*, *Ben Hur*, *Three Musketeers*, etc.

Nokrashy Pascha, Mahmoud Fahmy (b. Alexandria, Egypt, 1888—d. Cairo, Egypt, Dec. 28, 1948). Politician, Saadist Party leader, and Premier of Egypt since December, 1946. His varied cabinet posts included the ministries of Communications (1930, 1936-37); Interior (1938-39); Education (1939-40). Supporter of a non-compromise stand against the state of Israel, his assassination by a university student, belonging to an outlawed Moslem Brotherhood, was due to his failure to produce a victory in Palestine.

Northcote, Sir Geoffrey Alexander Stafford (b. Feb. 9, 1881—d. Sanderstead, Surrey, England, July 10, 1948). Colonial official; speaker of the East African Assembly; he spent most of his life in Kenya. He served as governor of Hong Kong, 1937-41, and of British Guiana, 1935-36.

Noyes, Frank Brett (b. Washington, D.C., July 7, 1883—d. Washington, D.C., Dec. 1, 1948). Newspaper publisher, board chairman and former president of The Evening Star Newspaper Company, and president of The Associated Press, 1900-38. Sometime editor and publisher of *The Record-Herald* (Chicago), and manager of *The Washington Star*.

Offedal, Sven (b. Stavanger, Norway, 1905—d. Oslo, Norway, June 23, 1948). Physician, politician, and minister of social welfare, since 1945. He recently extended and revised existing social legislation in Norway. Arrested as hostage in 1941, he was credited with saving the lives of hundreds of fellow prisoners in Sachsenhausen concentration camp.

Ogg, Alexander (b. Scotland, 1871—d. South Africa, Feb. 23, 1948). Noted physicist; director of the Government Magnetic Observatory, Harmanus, 1936-48; professor

of physics in the University of Capetown, 1920-36; and a Fellow of the Royal Society of South Africa.

Oman, Charles Malden (b. Columbia County, Pa., Oct. 23, 1878—d. Beacon, N.Y., Nov. 1, 1918). Rear Admiral, USN (retired), and commandant of the Naval Convalescent Hospital at Harrison, 1942-45. He joined the naval medical corps in 1902, being promoted to Rear Admiral in 1936. He served as American Red Cross delegate to international congress for the revision of the Hague Convention, 1937.

Opel, Wilhelm von (b. Rüsselsheim, Germany, May 15, 1871—d. Wiesbaden, Germany, May 2, 1948). Industrialist and founder of the Opel automobile works (1897). Since 1946 the plant has been controlled by the General Motors Corporation.

O'Riordan, Conal Holmes O'Connell (b. Dublin, Ireland, Apr. 29, 1874—d. London, England, June 18, 1948). Novelist, playwright, and director of the Abbey Theatre, Dublin, since 1909. Between 1891-1920, he was known under the pen-name of Norrwy Connell. Founder (1907) and president of the Square Club, and since 1937, president of the Irish Literary Society. Among his most successful plays were *Shakespeare's End* and *Rope* Enough.

Orton, Samuel Torrey (b. Columbus, Ohio, Oct. 15, 1879—d. Poughkeepsie, N.Y., Nov. 17, 1948). Neurophysiologist and a leading authority on speech disorders. He was professor of Neurology at Columbia University, 1930-36; neuropathologist at the Neurological Institute, 1929-36; and had been associated with various other hospitals.

Osborn, Sidney Preston (b. Phoenix, Ariz., May 17, 1884—d. Phoenix, Ariz., May 25, 1948). Governor of Arizona for the 4th consecutive term (since 1911); first secretary of state, 1912-19; and a leader in State Democratic politics. He was editor and owner of *Dunbar's Weekly*, 1925-41.

Overton, John Holmes (b. Marksville, La., Sept. 17, 1875—d. Bethesda, Md., May 14, 1948). Lawyer and politician; United States Senator from Louisiana since 1933, and representative in the Congress, 1915-33.

Owens, Thomas Leon (b. Chicago, Ill., Dec. 21, 1897—d. Bethesda, Md., June 7, 1948). Lawyer, Republican representative to Congress, from Illinois, since 1947. Active in labor relations, he helped frame the Taft-Hartley Act.

Pachachi, Hamdi al (b. 1886—d. Baghdad, Iraq, Mar. 27, 1948). Foreign Minister of Iraq, 1948; active in the Iraqi independence movement and the revolution; more recently active in the Arab League and opposed to partition of Palestine.

Palkot, Aloysius de (b. Nagyszombat, Hungary, May 31, 1866—d. Budapest, Hungary, Oct. 19, 1948). Statesman, author, and under-secretary of State, 1926-32. A supporter of the League of Nations, associate founder of the League of Nations Union, and author of *A Covenant of World Peace*.

Patterson, Eleanor Modill (b. Chicago, Ill., Nov. 7, 1884—d. Marlboro, Md., July 24, 1948). Owner-publisher and editor of *The Washington Times-Herald* which she purchased from Hearst in 1939. Sometime chairman of the board of the News Syndicate Company and a director of *The Chicago Tribune*. Twice married: (1) Count Joseph Giszynski, and (2) Elmer Schlesinger.

Paxon, Frederic Logan (b. Philadelphia, Pa., Feb. 23, 1877—d. Berkeley, Calif., Oct. 21, 1948). Historian, authority on western United States, and professor at the University of California, 1932-47 (retired). Besides the Pulitzer Prize-winning *History of the American Frontier* (1924) he also wrote *The Last American Frontier*, *The New Nation*, and *Recent History of the United States*.

Pedler, Margaret Bass (b. Teignmouth, Devon, England, n.d.—d. London, England, Dec. 28, 1948). Author of romantic fiction. Following the publication of *The Splendid Folly* (1918) she wrote 28 novels in 30 years, the last being *Unless Two Be Agreed*.

Peng, Hsueh-pei (b. 1898—d. Basut Island, near Hong Kong, China, Dec. 21, 1948). Diplomat, United Nations delegate, and since 1947 member of the Political Committee of the Executive Yuan. His many cabinet posts included the Ministry of Information (1946-47).

Pennock, Herbert Jeffries (b. Kenneth Square, Pa., Feb. 19, 1895—d. New York, N.Y., Jan. 30, 1948). Baseball player and general manager of the Philadelphia Phillies since 1943. He was a star pitcher with the Yankees in the Ruth-Gehrig era.

Perak, Abdul Aziz Al-Muktassim Billah Shah, Sultan of (b. 1887—d. Perak, Federation of Malaya, Mar. 29, 1948). Installed in 1931 as the 31st Sultan of Perak, he took a prominent part in the treaty negotiations leading to the establishment of the Federation of Malaya.

Pérez Martínez, Héctor (b. Campeche, Mexico, May 21, 1905—d. Vera Cruz, Mexico, Feb. 12, 1948). Politician, author, and dentist; Secretary of the Interior since 1946; and governor of the state of Campeche, 1939. Besides poetry he also wrote *Imagen de nadié; Juárez al impasible; and Cuauhtémoc, oída y muerta de una cultura*.

Pershing, John Joseph (b. Linn County, Mo., Sept. 13, 1860—d. Washington, D.C., July 15, 1948). Cavalry officer and, since 1919, General of the Armies of the United States. From the time of his graduation from West Point in 1886, until his retirement in 1924, he had seen active service in Cuba, the Philippines, and Mexico. When America entered World War I, he became commander in chief of the American Expeditionary Forces, 1917-19; and served

as chief of staff, 1921-24. Awarded the Pulitzer Prize for history in 1932, for *My Experiences in the World War*.

Petroff, Strahimil Albu (b. Varna, Bulgaria, Aug. 20, 1883—d. Chernobyl, S.C., Nov. 26, 1948). Physician, pioneer in tuberculosis research, and reportedly the first person to isolate the T.B. bacillus. Associated with the Trudeau Sanatorium, 1909-35.

Pottie, Edna May. See *May, Edna*.

Poyraud, Frank Charles (b. Bolle, Canton Fribourg, Switzerland, June 1, 1858—d. Highland Park, Ill., May 31, 1948). Landscape painter represented in museums in America and Europe. His paintings of midwestern scenes brought him many awards and prizes.

Phelps, Shelton Joseph (b. Nevada, Vernon Co., Mo., Oct. 7, 1884—d. Ponte Vedra Beach, Fla., Apr. 8, 1948). Educator, author, and president of Wuthrop College, S.C., 1934-43. He was a member of the White House Conference on Child Health and Protection, 1920-30. Author of textbooks and educational surveys, and associate editor of the *Journal of Educational Research*.

Phillips, Jay Campbell (b. New York, N.Y., Feb. 27, 1873—d. New York, N.Y., Sept. 24, 1948). Portrait painter represented in museums throughout the country. His portraits were mostly of celebrities, including William McAdoo, Carter Glass, and others.

Piorson, Reginald Kirshaw (b. London, Eng., 9, 1891—d. Cranleigh, England, Jan. 10, 1919). Chief aircraft designer for Vickers Armstrong, Ltd., since 1917. He designed the Wellington bomber, also the first plane to be flown across the Atlantic (1919).

Pignatelli di Belmonte, Gennaro Granito (b. Naples, Italy, Apr. 10, 1851—d. Vatican City, Italy, Feb. 16, 1948). Dean of the Sacred College of Cardinals since 1930, and a cardinal since 1911. Sometime Papal nuncio in Austria and in Belgium.

Pinner, Max (b. Berlin, Germany, Nov. 28, 1891—d. Berkeley, Calif., Jan. 7, 1948). Pathologist, authority on tuberculosis, and clinical professor, University of California, 1939-46. From 1938-45 he was in charge of the division of pulmonary diseases at Montefiore Hospital. He wrote numerous scientific papers and since 1940 was editor of *The American Review of Tuberculosis*.

Plunkett, George Noble (Papal and hereditary), Count (b. Dublin, Ireland, Dec. 3, 1851—d. Dublin, Ireland, Mar. 12, 1948). Scholar, and leading Irish patriot; active in the rebellion of 1916. Director of the Dublin National Museum, 1907-16; sometime director of Fine Arts; president, Academy of Christian Arts; and the editor of *Early Christian Art in Ireland*. Member of Parliament, 1917-23 and 1927; Sinn Féin delegate to Paris Peace Conference, 1919.

Ponce, Manuel M. (b. Fresnillo, Mexico, Apr. 24, 1886—d. Mexico City, Mexico, Apr. 24, 1948). Pianist and composer of Mexican folk songs, concertos, and chamber music. His best known work is *Estrellita*.

Powell, Sir (George) Allan (b. England, 1878—d. Gerrard's Cross, England, Jan. 24, 1948). Lawyer, administrator, and chairman of the board of the British Broadcasting Corporation, 1939-46.

Prendergast, Charles (b. Boston, Mass., May 27, 1869—d. Norwalk, Conn., Aug. 20, 1948). Woodcarver, painter, and noted maker of gesso panels. His work is represented in the Whitney Museum of American Art, the Museum of Modern Art, the Newark Museum, etc.

Prontico, Bernon Sheldon (b. Brooklyn, N.Y., May 12, 1882—d. Hot Springs, Va., June 13, 1948). Investment banker and sportsman; former chairman of the American Davis Cup Committee, and non-playing captain of the team.

Price, Harry (b. Shrewsbury, England, Jan. 17, 1881—d. Fulbrough, England, Mar. 29, 1948). Noted psychiatric researcher, author, lecturer, and founder-director of the National Laboratory for Psychical Research (1925), later the London Council for Psychical Investigation. Chairman, National Film Library, 1935-41.

Pryanishnikov, Dmitri Nikolaevich (b. Kiukhta, Russia, Oct. 25, 1855—d. Moscow, U.S.S.R., May 3, 1948). Foremost Russian agricultural chemist, a member of the Academy of Sciences, and sometime director of the Timiryazev Institute of plant physiology.

Pulsifer, Harold Trowbridge (b. Manchester, Conn., Nov. 18, 1886—d. Sarasota, Fla., Apr. 8, 1948). Poet; author; editor of the *Outlook*, 1928-28; president, Poetry Society of America, 1931-32; and the author of *Mothers and Men*, *Harvest of Time*, *Elegy for a House*, etc.

Ralston, James Leyton (b. Amherst, N.S., Sept. 27, 1881—d. Montreal, Canada, May 21, 1948). Lawyer, politician, and Canadian Minister of Defense, 1926-30, 1940-44.

Ramzin, Leonid Konstantinovich (b. Sosnovka, Tambov, Russia, Oct. 14, 1887—d. Moscow, U.S.S.R., June 30, 1948). Noted scientist and engineer who designed a fuel-saving unfilow boiler (1931). Denounced in 1930 for plotting military attack on Russia in conjunction with Allied leaders. Later rehabilitated and awarded the Order of Lenin and the Stalin Prize.

Rathbun, Henry Howe (b. Las Vegas, N.M., May 12, 1891—d. Des Moines, Iowa, Sept. 30, 1948). Agriculturist, lecturer, and one of America's foremost farm leaders. Since 1945, president of the Dairyman's League Co-

operative Association and, since 1947, president of the National Council of Farmer Cooperatives.

Reeves, Joseph Mason (b. Tampico, Ill., Nov. 20, 1872—d. Bethesda, Md., Mar. 25, 1948). Admiral, USN (retired); commander in chief of the Pacific Fleet, 1934-36. During World War II he was the Navy Department's Lend-Lease liaison officer and senior member of the Munitions Assignment Board.

Reid, Edward Waymouth (b. Canterbury, England, Oct. 11, 1863—d. Edinburgh, Scotland, Mar. 10, 1948). Pioneer in physiology and professor at University College, Dundee, 1889-1935. Fellow of the Royal Society since 1889; frequent contributor to scientific journals, and to Schäfer's *Textbook of Physiology*.

Reilly, Sir Charles Herbert (b. 1874—d. London, England, Feb. 2, 1948). Famous architect who as head of the School of Architecture, Liverpool University (1904-33), made it one of the foremost of its kind in the world. Originated Great Britain's modern town planning and campaigned for better living conditions.

Reinhardt, Aurelia Henry (Mrs. George F. Reinhardt, b. San Francisco, Calif., Apr. 1, 1877—d. Palo Alto, Calif., Jan. 28, 1948). Educator; president of Mills College, 1916-43; president, American Association of University Women, 1923-27. First woman to serve as moderator of the Unitarian churches in the United States (1940-42).

Reitler, Joseph (b. Vienna, Austria, Dec. 25, 1883—d. New York, N.Y., Mar. 12, 1948). Professor of music and music critic of the Vienna *Neue Freie Presse*, 1907-36. Founder and director of the New Vienna Conservatory (1915), and co-founder of the Salzburg Festival. Recently member of the Opera Workshop, Hunter College, N.Y.

Renaud, Ralph Edward (b. Washington, D.C., Feb. 27, 1881—d. Port Chester, N.Y., Aug. 10, 1948). Newspaper executive; editorial writer for the *New York Times* since 1935; and sometime editorial writer for the *Post*, *World*, and *Tribune*.

Rentschler, Gordon Sohn (b. Hamilton, Ohio, Nov. 25, 1885—d. Havana, Cuba, Mar. 3, 1948). Banker and chairman of the board, National City Bank of New York. Joined the bank as a director in 1923 and became its president in 1929.

Replogle, Jacob Leonard (b. Bedford County, Pa., May 6, 1876—d. New York, N.Y., Nov. 25, 1948). Industrialist and a leader in the steel industry. During World War I he headed the steel division of the War Industries Board and was a member of Baruch's "business cabinet."

Reynolds, James Burton (b. Saratoga Springs, N.Y., Feb. 17, 1870—d. New York, N.Y., Feb. 7, 1948). Banker, politician, former secretary of the Republican National Committee, and assistant secretary of the Treasury, 1905-09. As a member of the United States Tariff Board, 1909-12, he supported high tariffs.

Richards, Franklin Thomas Grant (b. Oxford?, England, Oct. 21, 1872—d. Monte Carlo, Monaco, Feb. 24, 1948). Book publisher and author; launched his own firm in 1897, and was credited with discovery of authors like Alec Waugh and Thomas Burke. Early in career he published Samuel Butler's *The Way of All Flesh* and A. E. Housman's poems; he was the latter's friend and biographer. He wrote *Author Hunting, Memories of a Misspent Youth*, etc.

Richards, Grant. See Richards, Franklin Thomas Grant.

Rickey, Harry Norris (b. Cincinnati, Ohio, 1871—d. Winter Park, Fla., Aug. 27, 1948). Newspaperman, editor in chief of all Scripps-Howard newspapers, and an executive with that organization from 1892-1930. Also original trustee of the UP and NEA.

Ridst, Frances Lillian Mary. See Landis, Carole.

Rieber, Frank (b. Placerville, Calif., Mar. 12, 1890—d. New York, N.Y., June 30, 1948). Geophysicist and inventor; director of the Rieber Laboratory, since 1932; and inventor of special apparatus for geophysical research and seismic exploration.

Roberts, George Evan (b. Delaware County, Iowa, Aug. 19, 1857—d. Larchmont, N.Y., June 6, 1948). Fiscal authority; twice director of the United States Mint, 1898-1907, 1910-14; and vice president and economic adviser of the National City Bank of New York, 1914-40. Sometime newspaper publisher and owner of the *Des Moines Register*; also active as a political pamphleteer.

Roberts, Michael (b. England, 1902—d. London, England, Dec. 13, 1948). Poet, critic, educator, and principal of the College of St. Mark and St. John (London), since 1945. His writings include *Critique of Poetry*, *Newton and the Origin of Colours*, *Poems*, *The Modern Mind*, etc. He was the editor of *Elizabethan Prose*, *The Faber Book of Modern Verse*, and *The Faber Book of Comic Verse*.

Robertson, W(alfred) Graham (b. London, England, July 8, 1866—d. Witley, Surrey, England, Sept. 4, 1948). Painter, illustrator, author, and art collector; his work was strongly influenced by the pre-Raphaelites. *Pinkie and the Fairies* and *The Fountain of Youth* were two of his many plays produced in London. In his autobiography, *Time Was*, he drew a sparkling picture of the Victorian era.

Robinson, Josephine (Josie) de Mott (b. 1860?—d. Garden City, Long Island, N.Y., Mar. 8, 1948). Regarded as queen of circus equestriennes around 1900. She appeared with Barnum and Bailey in the 1880's and made a comeback in 1906.

Robinson, Paschel (b. Dublin, Ireland, 1870—d. Dublin, Ireland, Aug. 27, 1948). Archbishop of the Roman Cath-

olic Diocese of Tyana, since 1927, and the first Papal Nuncio to Ireland in 300 years. Onetime lawyer and newspaperman, he joined the Franciscan order in 1896, was ordained in 1901, and entered the diplomatic service of the church in 1919. He taught at the Catholic University, Washington, D.C., and was associate editor of the *North American Review*, 1932-95.

Reisner, John Marshall (b. Bracken County, Ky., Jan. 2, 1878—d. Barbourville, Ky., Feb. 17, 1948). Lawyer and Republican congressman from Kentucky, 1919-29, 1935-48. He held a vacancy as Senator, 1939-41.

Rockefeller, Abby Greene Aldrich (b. New York, N.Y., Oct. 26, 1874—d. New York, N.Y., Aug. 19, 1948). Wife of John D. Rockefeller, Jr., in whose philanthropies she took an active part. As an art patron she was co-founder of the Museum of Modern Art (1929) and donated more than 2,000 items to its collections.

Roosevelt, Edith Kermit Carow (b. Norwich, Conn., Aug. 6, 1861—d. Oyster Bay, Long Island, N.Y., Sept. 30, 1948). Widow of the late president, Colonel Theodore Roosevelt, whom she married in 1886. To a marked degree she had shared her husband's activities and interests, and until recently had remained active in Republican Party affairs.

Rosny, J. H., the younger (pseudonym for Seraphim Justin Francois Boex, b. Brussels, Belgium, 1859—d. St. Brieuc, France, June 16, 1948). Novelist and charter member of the Goncourt Academy, of which he was president in 1940. He wrote more than 50 books in addition to some 30 volumes in collaboration with his brother.

Rossi, Raffaele Carlo (b. Pisa, Italy, Oct. 28, 1876—d. Bassano del Grappa, Italy, Sept. 17, 1948). Cardinal; titular archbishop of the Roman Catholic Diocese of Thessalonika, since 1930; and secretary of the Consistorial Congregation.

Roussy, Gustave (b. Vevey, Switzerland, Nov. 24, 1874—d. Paris, France, Sept. 30, 1948). Medical scientist, particularly in the fields of neurology, endocrinology, and cancer. Recently relieved of his post as rector of the University of Paris and dean of its faculty of sciences following charges of illegal currency manipulations.

Roxas y Acuna, Manuel (b. Capiz, Philippine Islands, Jan. 1, 1892—d. Clark Field, Pampanga, Philippine Islands, Apr. 15, 1948). Lawyer, statesman, and president of the Republic of the Philippines since 1946. Attained the rank of Brigadier General during World War II and served as an aide to General McArthur. He headed several Philippine Independence Missions to the United States and strove to orient his country towards America.

Ruggiero, Guido de (b. Naples, Italy, Mar. 23, 1888—d. Rome, Italy, Dec. 29, 1948). Philosopher, author, and historian whose best known work is a 16-volume history of philosophy. He was a professor at the University of Rome; vice president of the Italian Delegation to UNESCO; and minister of Education in the post-liberation cabinet. His most recent work to be published in English was *Existentialism, Disintegration of Man's Soul*. Other works include: *History of European Liberalism*, *Modern Philosophy*, and *Myths and Ideals*.

Rumanceff, Nicholas A. (b. Moscow, Russia, 1875—d. New York, N.Y., May 21, 1948). Physician and actor, one of the 12 original owner-members of the Moscow Art Theater, where he made his debut in 1902. He brought the group to the United States in 1922 and 1926.

Ruppert, George E. (b. New York, N.Y., Mar. 18, 1875—d. New York, N.Y., Nov. 5, 1948). Board chairman of the Ruppert Brewery since 1945, and president from 1939-45.

Ruth, George Herman (b. Baltimore, Md., Feb. 7, 1895—d. New York, N.Y., Aug. 16, 1948). A leading figure in professional baseball, and the idol of American youngsters, "Babe" Ruth starred in 10 world series and set 54 major league records between 1914-38. He began his major league career with the Boston Red Sox (1914) and was bought by the N.Y. Yankees in 1920 for a reported \$125,000.

Ryan, Tommy (b. Redwood, N.Y., 1870—d. Granada Hills, Calif., Aug. 8, 1948). Boxer, former welterweight and middleweight champion, and a veteran of some 200 bouts. He retired from the ring in 1907, undefeated.

Rybalko, Pavel Semyonovich (d. U.S.S.R., Aug. 28, 1948). Marshal in the Soviet army and commander in chief of the armored tank and mechanized troops, twice proclaimed a hero of the Soviet Union.

Rylands, Sir (William) Peter (b. Thelwall, Cheshire, England, Oct. 23, 1868—d. Thelwall, England, Oct. 24, 1948). Lawyer, manufacturer, and founder and twice president of the Federation of British Industries, 1919-21. He held directorships in many industries and was president of the Iron, Steel Wire Manufacturers Association (since 1900), and sometime president of the Iron and Steel Institute (1926-27).

Solomon, Alice (b. Berlin, Germany, Apr. 19, 1872—d. New York, N.Y., Aug. 30, 1928). Pioneer sociologist, lecturer, and author. She organized and directed the first German school of social work (1899-1925), was a frequent delegate to international conferences, and received high honors for her work in the fields of public health and women and children in industry. Her writings included works on economy, civics, and social-work problems.

Samaroff, (Lucy Mary) Olga Hickenlooper (b. San Antonio, Tex., Aug. 8, 1882—d. New York, N.Y., May 17, 1948). Concert pianist, teacher, lecturer, and author. Following her New York debut in 1905, she toured Asia and Europe. She was on the faculty of the Juilliard School of Music (since 1925) and of the Philadelphia Conservatory. Founded the Schubert Memorial, Inc. (1927), the Lavanian's Music Course, and co-founded the Museum of the University Fund (1931). Her writings include *The Layman's Music Book*, *The Magic World of Music*, and *An American Musician's Story*. Divorce terminated her marriage to Leopold Stokowski in 1911.

Sankey, John, 1st Viscount of Moncton (b. Moncton, England, Oct. 26, 1866—d. London, England, Feb. 6, 1948). Statesman, lawyer, and Lord Chancellor of Great Britain, 1929-35. Sometime chairman of the Federal Structure Committee; High Steward of Oxford University; Lord Justice of Appeals; and since 1930 a member of the Permanent Court of Arbitration at The Hague.

Savitt, Sam (b. Leningrad, Russia, 1913—d. Sacramento, Calif., Oct. 1, 1948). Violinist, composer, and orchestra leader, widely known as band leader who evolved the shuffle rhythm. Sometime first violinist with the Philadelphia Orchestra and organizer of the Savitt String Quartet.

Saw, U (b. Burma, u.d.—d. Rangoon, Burma, May 8, 1918). Politician, premier of Burma, 1940-41, hanged for complicity in the murder (July, 1947) of Premier U Aung San and 6 other cabinet members. U Saw was a member of the Burmese delegation to the London conference in January, 1947, at which he refused to sign agreement for Communist Burma.

Schwarzburg, Prince William (b. Wuerttemberg, Germany, May 1, 1885—d. Albany, N.Y., Sept. 21, 1948). Soldier and collector of the heroic busts of famous men, including those of Napoleon, McArthur, etc. He also executed a portrait group, *Victory Triumphant*, and miniature models of the Taj Mahal and the Minaret. Represented in several European and American museums.

Schwellenbach, Lewis Baxter (b. Superior, Wis., Sept. 20, 1894—d. Washington, D.C., June 10, 1948). Lawyer, banker, and Secretary of Labor, June 1945. During his term as United States Senator, 1937-40, he was a member of the Senate Foreign Relations Committee. A staunch supporter of President Roosevelt, and a foe of Huey Long. A liberal Democrat, he was a vigorous spokesman for labor's rights. Between 1910-45 he served as a Federal judge.

Schwimmer, Rosika (b. Budapest, Hungary, Sept. 11, 1877—d. New York, N.Y., Aug. 8, 1948). Feminist, pacifist, and guiding spirit of the Ford "peace ship" in World War I. Following participation in the bloodless Hungarian revolution she became Hungarian minister to Switzerland (1918).

Sobrecht, Joseph Marcel Alphonse (b. Willebroeck, Belgium, Feb. 11, 1885—d. Bruges, Belgium, Mar. 28, 1948). Physician, internationally known as a scientist and practitioner. He was president of the Royal Flemish Academy of Medicine; professor at the University of Louvain; and director of the municipal hospital in Bruges.

Selig, William Nicholas (b. Chicago, Ill., Mar. 14, 1864—d. Los Angeles, Calif., July 13, 1948). Pioneer motion picture producer who made his first commercial film in 1896. Established the Selig Picture Company, 1909, and invented many technical appliances, including the Selig polyscope. His early pictures included *The Jungle* (1906), *The Count of Monte Christo* (1907), *The Garden of Allah*, and *Coming of Colaninus*.

Sorot, André Pierre (b. Cregny, Vosges, France, 1896—d. Jerusalem, Palestine, Sept. 17, 1948). Army officer and chief French observer in Palestine, assassinated together with Count Folke Bernadotte. During World War II he was a leader in the French resistance movement.

Sheppard, Samuel Edward (b. Hither Green, Kent, England, July 29, 1882—d. Rochester, N.Y., Sept. 29, 1948). Internationally known research scientist in the field of photochemistry, colloids, and photography; associated with the Eastman Kodak Company, 1912-48. He held some 90 patents, alone or jointly; was the author of some 100 scientific papers and many technical books.

Shiber, Rita Kahn (b. New York, N.Y., Jan. 20, 1878—d. New York, N.Y., Dec. 23, 1948). Author of the best-seller *Paris—Underground*, in which she related her experiences in France during World War II.

Shillote, Edward (b. 1872—d. Buckhurst Hill, Essex, England, Mar. 11, 1948). Congregational clergyman, poet, and religious journalist. Editor of the London Missionary Society's periodicals; London correspondent of the *Christian Century*; and author of *Life and Work*, *The Christian Year in Wartime*, *Poetry and Prayer*, etc.

Sibilla, Enrico (b. Anagni, Italy, Mar. 17, 1861—d. Rome, Italy, Aug. 4, 1948). Senior member of the College of Cardinals (since 1935). He had served as Papal Nuncio in various South American countries, in Spain, and lastly in Austria (1923-35).

Sidgrouves, Sir Arthur Frederick (b. England?, June, 1882—d. London, England, June 7, 1948). Industrialist, managing director of Rolls-Royce, 1929-46, and associated with the firm since 1920. Credited with responsibility for "shadow factory" for aircraft motors.

Sidi Mohammed Al-Mounssif, Pasha Bey (b. La Monouba, Mar. 4, 1881—d. Pau, France, Sept. 1, 1948). Moslem Bey

of Tunis, 1942-43. Forced to abdicate by the French, he was succeeded on May 15, 1943, by Sidi Mohammed al-Amiri, his cousin.

Silberstein, Ludwik (b. Poland, 1873?—d. Rochester, N.Y., Jan. 17, 1948). Physicist, authority on relativity, and a critic of Einstein's theory, for which he evolved a testing method (1921). He was the author of *The Theory of Relativity*, *The Size of the Universe*, *Causality*, etc.

Silvers, Earl Rood (b. Jersey City, N.J., Feb. 22, 1891—d. Sarasota, Fla., Mar. 26, 1948). Educator, author, and dean of men at Rutgers University, since 1914. Besides *The Editor Accepts: How To Write Short Stories That Magazines Buy* and *Son of Tomorrow*, he wrote numerous books for boys, including *Dick Arnold of Raritan College*, *Ned Beals, Freshman*, and *Code of Honor*.

Simone, G. F. Edgardo (b. Brindisi, Italy, June 20, 1890—d. Los Angeles, Calif., Dec. 19, 1948). Internationally known sculptor; creator of some 30 monuments in 26 countries since 1919. Also noted for portrait busts and for sculptures for motion pictures, especially for *The Song of Bernadette*.

Simons, Gerard J. M. (b. Bergen op Zoom, Holland, 1877—d. Franklin Lakes, N.J., May 25, 1948). Dutch newspaper correspondent in the United States and co-founder of the Foreign Press Association.

Sisson, Edgar Grant (b. Alto, Wis., Dec. 23, 1875—d. New York, N.Y., Mar. 12, 1948). Author and journalist. He had variously been editor (1914-17), city editor (1909-11), and assistant city editor (1903-09), of *Cosmopolitan* magazine, and was a city editor (1911-14) of *Collier's Weekly*. Author of *A Hundred Red Days—A Personal Chronicle of the Bolshevik Revolution*.

Slattery, James M. (b. Chicago, Ill., July 29, 1878—d. Lake Geneva, Switz., Aug. 27, 1948). Lawyer and politician; United States Senator from Illinois, 1939-40; and chairman of the Illinois Commerce Commission, 1936-39.

Smith, Percy John Delf (b. England, 1882—d. London, England, Oct. 30, 1948). Noted author, painter, and typographical designer. His work, represented in the British Museum, the Library of Congress, and the Victoria and Albert Museum, includes: *The Dance of Death*, *The Three Scythes*, and dropcap illustrations for *Wuthering Heights*.

Smith, Sir (Charles) Aubrey (b. London, England, July 21, 1863—d. Beverly Hills, Calif., Dec. 20, 1948). Distinguished character actor of stage and screen; best known for his portrayals of British aristocrats. His stage roles included parts in *The Notorious Mrs. Ebbsmith*, *Hamlet*, *The Light that Failed*, *The Constant Wife*. In a screen career which began in 1915 he appeared in such films as *Madame Curie*, *A Bill of Divorcement*, *Waterloo Bridge*, *Rebecca*, *Cluny Brown*, *High Conquest*, etc.

Smith, Sydney Talbot (b. Kensington, Australia, Apr. 21, 1861—d. Adelaide, Australia, November 1938). Noted authority on literature and drama; president of the Public Library of Adelaide, and of the Adelaide Repertory Theatre. Sometime chairman of the advisory committee of the Commonwealth Literary Fund, president of the National Gallery and Museum of Adelaide, and for some 20 years a member of the Council of the university. A writer of distinction, he was drama and art critic of the *Bulletin*, leader writer for the *Advertiser*, and the author of verse and essays.

Smithy, Horace Gilbert, Jr. (b. Norfolk, Va., July 19, 1914—d. Charleston, S.C., Oct. 28, 1948). Noted surgeon and assistant professor of surgery at the South Carolina State Medical College since 1940. He performed the first successful operation on the heart valve and helped perfect the operative technique.

Sohlman, Ragnar (b. Stockholm, Sweden, Feb. 26, 1870—d. Stockholm, Sweden, July 9, 1948). Chemical engineer, inventor, and director of the Royal Board of Trade, 1928-36. A life-long friend and assistant of Alfred Nobel, sometime director of the Nobel Bofors Powder Company (1898-1919), and the executor of Nobel's will. He was chairman of the board, Nobel Foundation, 1929-46.

Sorrells, John Henry (b. Pine Bluff, Ark., Mar. 31, 1896—d. New York, N.Y., Feb. 25, 1948). Executive editor of the Scripps-Howard newspapers, since 1930; president and publisher of *The Memphis Commercial Appeal*, since 1936.

Soyoshima, Michimasa, Count (b. Japan, October, 1871—d. Tokyo, Japan, Oct. 13, 1948). Industrialist, statesman, and sometime chamberlain to the Emperor of Japan. He was a member of the International Olympic Committee in 1934; a director in several companies, and a member of the House of Peers.

Spooks, Oley (b. Canal Winchester, Ohio, June 28, 1876—d. New York, N.Y., Aug. 27, 1948). Concert baritone and song composer. The most popular of his more than one hundred compositions were: *Sylvia*, *On the Road to Mandalay*, *To You*, *When the Boys Come Home*, and *Morning*.

Spielmann, Marion Harry Alexander (b. London, England, May 22, 1858—d. Folkestone, England, Oct. 8, 1948). Writer, art critic, and a leading Shakespearean scholar. Besides contributing articles to leading newspapers and periodicals he was sometime editor of the *Magazine of Art*, editor of the art section of the *Encyclopaedia Britannica* (10th Edition), and part editor of the *New Art Library*. Among his works on art and artists were: *History of Punch*, *Millais and his Works*, *John Ruskin*, *British Portrait Painting*, and *The Portraits of Shakespeare*.

Squier, John Bentley (b. New York, N.Y., Nov. 6, 1873—d. New York, N.Y., Mar. 1, 1948). Eminent urological surgeon of world renown. Co-founder of the College of Surgeons, and its president, 1932-33; professor of urology at Columbia University since 1917, and the N.Y. Post Graduate Medical School, 1909-24.

Sullybrass, William Teulon Swan (b. England, Nov. 22, 1883—d. Iver, Bucks., England, Oct. 28, 1948). Educator, lawyer, vice chancellor of Oxford University; principal of Brasenose College since 1936, and vice president, 1914-36. He was also honorary master of the Bench of Inner Temple, and the author of books and papers on jurisprudence. Other writings include *The Pocket Emerson, Pros and Cons, The Society of St. Francis*, and editorship of the *Oxford Magazine* (1914-19) and *Oxford Review* (1940-46).

Stander, Henricus Johannes (b. Georgeburg, South Africa, June 21, 1894—d. Scarsdale, N.Y., May 2, 1948). Professor of obstetrics and gynecology at Cornell University since 1929, and director of all teaching and clinical activities at New York Hospital-Cornell Medical Center since 1932. Author of *Flotation Process, Williams Obstetrics*, and *A Textbook of Obstetrics*.

Stearns, Joyce Clennam (b. Meadville, Mo., June 23, 1893—d. St. Louis, Mo., June 11, 1948). Physicist, active in atomic research, and since 1945, dean of faculties, Washington University. On the faculty of the University of Chicago, 1942-45; and variously professor, head of department, and director of High Altitude Cosmic Ray Laboratory, University of Denver, 1930-42.

Stebbins, Rowland (b. New York, N.Y., 1882—d. New York, N.Y., Dec. 12, 1948). Stockbroker, theatrical producer, and Pulitzer Prize winner for his production of *Green Pastures* (1930). Other plays which he produced include *The Patriots, Lost Horizon, White Horse Inn*, and *Springtime for Henry*.

Stephenson, Marjory (b. England, Jan. 24, 1885—d. Cambridge, England, Dec. 12, 1948). Bacteriologist, and a pioneer in chemical microbiology. Fellow of the Royal Society (1945), on the scientific staff of the British Medical Research Council, and on faculty of Cambridge University.

Sternroyd, Vincent (b. Highgate, England, Oct. 8, 1857—d. London, England, Nov. 3, 1948). Veteran character actor; made his London debut in 1879, and his last stage appearance in *Henry V.* in 1938. First New York appearance in *One of Our Girls* (1885). His last of many trips to the United States was made in 1923. He played with most of the great actors of the English stage in a wide repertoire including Shakespeare, Rostand, Ibsen, and Shaw.

Stimson, Julia Catherine (b. Worcester, Mass., May 26, 1881—d. Poughkeepsie, N.Y., Sept. 30, 1948). Colonel, AUS (retired), and superintendent of the Army Nurse Corps, 1919-37. She was chief of the American Red Cross in France, 1918; director of the nursing service of the AEF, 1918-19; president of the American Nurses Association, 1938-44; and chairman of the Nursing Council on National Defense, 1940-42. Returned to active duty, 1943-44, she was assigned to the recruiting of nurses.

Stirling, W. Edward (b. Birmingham, England, May 26, 1891—d. Jan. 12, 1948). Actor-manager and author; performed in 37 countries. Made London debut in *Anna Karenina* (1914); directed *The English Players* (1922-40); did broadcasting for BBC (1941-44); was general manager of ENSA Allied Entertainment in Paris (1944-45); attached to Radiodiffusion Française (1946). Appeared in New York (1939) in *This Brave New World*. Author of *Captain Swing* (with Frances Brett Young), *Crepe de Chine, The New Will*, and *Something To Declare*.

Stirling, Yates, Jr. (b. Vallejo, Calif., Apr. 30, 1872—d. Baltimore, Md., Jan. 27, 1948). Rear Admiral, USN (retired), and former commandant of the Third Naval District, New York. Nicknamed "stormy petrel" for his many controversial articles on military, naval, and international affairs.

Stoddard, Louis E. (b. New Haven, Conn., 1870—d. Los Angeles, Calif., Mar. 9, 1948). Sportsman, regarded as one of the world's foremost polo players. He served as chairman of the Board of Governors, U.S. Polo Association, 1922-36.

Stokowski, Olga Samaroff. See *Samaroff, Olga*.

Strauss, Joseph (b. Mount Morris, N.Y., Nov. 16, 1861—d. Bethesda, Md., Dec. 30, 1948). Admiral USN (retired 1925) and commander of the Asiatic Fleet, 1920-21. One of the Navy's foremost ordnance experts, he was named chief of the Navy Bureau of Ordnance in 1913. During World War I he commanded the mine force of the Atlantic Fleet.

Streeter, George Linus (b. Johnstown, N.Y., Jan. 12, 1873—d. Gloversville, N.Y., July 27, 1948). Noted embryologist and director of the department of biology, Carnegie Institution, 1918-40. Sometime faculty member of Johns Hopkins University and of the University of Michigan.

Ström, Fredrik Otto (b. Simlångsdalen, Sweden, 1880—d. Hultafors, Sweden, Nov. 23, 1948). Author, journalist, and politician. A radical and a Socialist, he edited the powerful newspaper *Social-Demokraten*, 1904-05 and 1930-39. Served as Town Councillor 1912-42 (Chairman 1938-42). He was a member of Gustaf Adolfs Akademi; chairman, Swedish Author's Society; head of the theater society Skådebanen. His written works include *The People*

in Simlångsdalen, The Rebels, The Swedes in their Proverbs, History of Russia, etc.

Strong, George Templeton (b. New York, N.Y., May 26, 1856—d. Geneva, Switzerland, June 27, 1948). Composer and arranger brought to American attention when Toscanini conducted *Die Nacht* with the NBC Symphony, in 1939. The same orchestra gave his *Paraphrase on a Choral* by Hassler in 1948. Other works include three symphonies, sonatas, tone poems, etc.

Strong, Richard Pearson (b. Fortress Monroe, Va., Mar. 18, 1872—d. Boston, Mass., July 4, 1948). Internationally known authority on tropical diseases and epidemics; professor of tropical medicine at Harvard Medical School, 1913-25, and at the University of the Philippines, 1907-13. Author of *Diagnosis, Prevention and Treatment of Tropical Diseases*.

Stryunsky, Simeon (b. Vitebsk, Russia, July 23, 1879—d. Princeton, New Jersey, Feb. 5, 1948). Author, editorial writer, associated with *The New York Times* since 1924. Previously with the *New York Evening Post* (1908-24) and departmental editor of the *New International Encyclopedia* (1900-06). He wrote *The Patient Observer, Post-Impressions, The Living Tradition, No Mean City*, etc.

Subbarow, Yellagorreda (b. Madras, India, July 1, 1896—d. Pearl River, N.Y., Aug. 10, 1948). Physicist and director of research at the Lederle Laboratories, since 1940. He was a fellow at Harvard, 1925-30, and on the faculty, 1930-40. Noted for his drug researches.

Sullivan, Dan J. (b. Boston, Mass., 1876—d. Boston, Mass., Jan. 16, 1948). Composer of popular songs, scores, and lyrics for musicals. Hit songs included *You're as Welcome as the Flowers in May, Sweet Girl of My Dreams*, and *Stealing*.

Suzuki, Kantaro, Baron (b. Osaka-fu, Japan, Dec. 24, 1867—d. Chiba, Japan, Apr. 17, 1948). Admiral, statesman, and premier of Japan in 1945. Sometime director of the Naval Academy; supreme war councillor; president of the Privy Council, 1914-45; and Grand Chamberlain, 1930-36. Several attempts were made on his life for his opposition to World War II.

Swebelius, Carl Gustave (b. Sweden, 1879—d. New Haven, Conn., Oct. 18, 1948). Firearms inventor, vice president of High Standard Manufacturing Corporation, and sometime director of the Springfield Armory at the Marlin plant, where he developed the Marlin aircraft gun.

Swift, Josiah Otis (b. Farmington, Me., Mar. 1, 1871—d. Hastings-on-Hudson, N.Y., May 24, 1948). Nature editor of *The New York World-Telegram* since 1931, and of *The New York Morning World-Telegram* since 1922. His daily column "News Outside the Beltway" appeared since 1932, the year in which he founded the Xosian Brotherhood.

Szarvasy, Frederick Alexander (d. London, England, July 3, 1948). Leading financier and industrialist; chairman of the Amalgamated Anthracite Collieries and of the British Anthracite Sales Ltd. He was chief backer of the Covent Garden Opera Syndicate and active in Gaumont Ltd.

Taggard, Genevieve (b. Waitsburg, Wash., Nov. 28, 1894—d. New York, N.Y., Nov. 8, 1945). Noted poet, educator, and distinguished biographer of Emily Dickinson. Various taught at Sarah Lawrence College (1935-46), Bennington (1932-35), and Mount Holyoke (1929-31). She was a founder and editor of the poetry journal *Venue* (1920-26), a contributor to the *Masses*, and author of several volumes of poetry. The first volume of her poetry, *For Eager Lovers* (1932), was in the lyrical mood; later volumes were metaphysical, and lastly, radical. Among these were *Not Mine to Finish, Long View, Falcon, Origin Hawaii*, and *Collected Poems, 1918-38*. The words for *Prologue* by W. Schuman and for *The Lark* by Copland were also written by her.

Takach, Basil (b. Czechoslovakia, Oct. 27, 1879—d. Pittsburgh, Pa., May 13, 1948). Roman Catholic prelate, ordained 1902, and consecrated Bishop of the Pittsburgh Greek Rite Diocese, 1924.

Talbot, Marion (b. Thun, Switzerland, July 31, 1858—d. Chicago, Ill., Oct. 20, 1948). Educator, pioneer in co-education in colleges, and the University of Chicago's first Dean of Women, 1892-1925. Sometime president of Constantinople Woman's College; a founder of the American Association of University Women; charter fellow of the American Public Health Association.

Tarbell, Martha (b. 1862—d. East Orange, N.J., Oct. 26, 1948). Author of religious books, Bible guides, and language textbooks. Her best known work is *Teacher's Guide to the International Bible Lessons for Christian Teaching*, which has appeared annually since 1906.

Tarkhanov, Mikhail (b. Moscow, Russia, 18—?—d. Moscow, U.S.S.R., Aug. 18, 1948). Leading character actor, and one of the oldest members of the Bolshoi Art Theater, where he made his debut in 1922. A Stalin Prize winner and a People's Artist, he was on the faculty of the State Institute of Theater Art. His family name was Moskvina.

Tauber, Richard (b. Linz, Austria, May 16, 1892—d. London, England, Jan. 8, 1948). Internationally known operatic tenor, composer, conductor, and actor. He variously sang with the Dresden, Vienna, and Berlin State operas. Concerted throughout Europe, America, and Australia, and conducted orchestras all over the world. Appeared in several *Lehar* operettas; and in many films. Composer of *Der Singende Traum* and *Old Chelsea*.

Tausig, Charles William (b. New York, N.Y., Aug. 9, 1896—d. Bay Shore, Long Island, N.Y., May 10, 1948). Chairman and president of the American Molasses Company; close friend of the late Franklin D. Roosevelt, and one of six original "brain trusters." He served as adviser to the United States delegations to the World Economic Conference, 1933, and to the UN Charter Conference, 1945. Sometime member of the Committee on Dependent Areas, U.S. Department of State, and frequent representative of the President in Caribbean matters; was chairman of the Anglo-American Caribbean Commission, 1942; chairman of the United States Section, Caribbean Commission, 1946; and special adviser to the Secretary of State, 1947. He was the author of *Back of Boston: Rum, Romance and Rebellion; American Rascals; and many magazine articles.*

Thebaud, Georges (b. France—d. St. Cloud, France, Dec. 19, 1948). Soldier, aviator, and commander of the Lafayette Escadrille, from the time of its formation until its absorption in the A.E.F. (1917). Served as military attaché in Washington, 1923-33. Author of *Colonel Thebaud: the Story of the Lafayette Escadrille.*

Thoma, Ritter Wilhelm von (b. Germany, 1891—d. Stareuberg, Germany, Apr. 30, 1948). Army general, field commander of the Afrika Korps, 1940-42; taken prisoner near Alamain. Recognized as a tank expert, he led the tank forces in the Spanish civil war.

Thompson, Alexander Mettack (b. Karlsruhe, Germany, Mar. 9, 1861—d. London, England, Mar. 25, 1948). Drama critic, journalist, and co-founder of the Laborite weekly *The Clarion* (1891). Author of *Dan's Mixture; Dangle's Guide to Paris; Here I Lie* (autobiography), and co-author of librettos for *The Arcadians; The Dargynalls; Tom Jones*, etc.

Thompson, Sir d'Arcy Wentworth (b. Galway, Ire., 1860—d. 1948). Greek scholar, biologist, and professor of natural history at St. Andrews University since 1884. His Hellenic studies include *Glossary of Greek Birds; On Growth and Form; Glossary of Greek Fishes*, etc.

Tierkel, David Baor (b. Moliv, Russia, 1900—d. Philadelphia, Pa., May 28, 1948). Hebrew scholar, author, and sometime editor of the *Philadelphia Jewish Day*. He was a leading Zionist and had been president of the Philadelphia Zionist Organization and of the Hebrew Literary Society. Author of *Songs of David and The Juvenile Stage.*

Tinker, Joseph (Joe) Bort (b. 1880—d. Orlando, Fla., July 27, 1948). Baseball player; Chicago Cubs, shortstop (1902-12) in the famous Tinkers-to-Evers-to-Chance infield.

Tojo, Hideki (b. Tokyo, Japan, Dec. 30, 1884—d. Tokyo, Japan, Dec. 23, 1948). Army officer and politician, hanged as war criminal together with 6 other Japanese war lords. Death sentence was pronounced by the International Military Tribunal of the Far East, on Nov. 12, 1948. Tojo, a lieutenant general, was chief of staff of the Kwangtung Army, 1937-38; Vice Minister of War, 1938-39; and Minister of War and Prime Minister in 1941.

Tolman, Richard Chace (b. West Newton, Mass., Mar. 4, 1881—d. Pasadena, Calif., Sept. 5, 1948). Atomic scientist and one of the world's foremost mathematical physicists. Professor since 1922, and dean of the Graduate School since 1935, California Institute of Technology. During World War II he worked on the Manhattan Project and on the UN Atomic Energy Commission. Author of *The Theory of the Relativity of Motion; Relativity, Thermodynamics and Cosmology; The Principles of Statistical Mechanics*, etc.

Troeddel, Nils (b. Sunddal, Norway, Nov. 29, 1879—d. Oslo, Norway, October, 1948). Ecclesiastic and politician. A member of Parliament, 1934-36, and since 1946; minister of Church and Public Instruction, 1931-33; and chairman of the Agrarian Party.

Trohane, Bryceson (b. Merthyr Tydfil, South Wales, May 30, 1879—d. Woodside, L.L., Feb. 4, 1948). Composer, pianist, educator, and editor for the Boston Music Company and the Willis Music Company. His compositions include two cantatas, two operas, and more than 200 songs.

Tresidder, Donald Bertrand (b. Tipton, Ind., Apr. 7, 1894—d. New York, N.Y., Jan. 28, 1948). Physician, educator, and president of Stanford University, California, since 1943.

Tunnecliffe, Thomas (b. Ascot, Victoria, Australia, July 13, 1869—d. Victoria, Australia, Feb. 2, 1948). Politician, journalist, and author. He variously served as Speaker of the Victoria Legislative Assembly (1897-40); minister of Railways (1927-28); leader of the State Labour Party (1932-37). Sometime editor of *Stead's Review* (1925-27); *Public Service Journal* (1921-24); and author of *Socialism: Its Aim and Object; Woman Suffrage; Problem of Poverty; The Fallacy of Price Fixing.*

Tut, U Tin (b. Burma, Feb. 1, 1895—d. Rangoon, Burma, Sept. 19, 1948). Lawyer, statesman, and soldier. A cabinet member since 1947, he resigned as finance minister to become inspector general of the Burmese Auxiliary Force. He was a British civil servant in Burma and India, 1921-33, and adviser in India in 1946. Sometime high commissioner in, and ambassador designate to Great Britain, he was killed by an assassin. The *Burmese Review*, was founded and edited by him.

Ullman, Frederic, Jr. (b. Buffalo, N.Y., Apr. 19, 1908—d. Beverly Hills, Calif., Dec. 26, 1948). Motion picture producer and president of RKO-Pathé, 1942-47. Since

1944 he directed the RKO Television Corporation. Recently completed first full length film, *The Window.*

Vambory, Rustem (b. Budapest, Hungary, Feb. 29, 1872—d. Queens, New York, Oct. 24, 1948). Lawyer, author, diplomat, and Hungarian minister to the United States, 1947-48. Sometime professor of criminal law at the university of Budapest and vice chairman of the Bourgeois Radical Party. He lectured at the New School of Social Research, 1939-44, and edited *Harc* (1941-46), organ of the American Federation of Democratic Hungarians. A frequent contributor to European newspapers and magazines, and the author of *Marriage in Criminal Law; From War to Peace; Hungary, To Be or Not To Be.*

Van der Bijl, Hendrik Johannes (b. Pretoria, South Africa, Nov. 23, 1887—d. Johannesburg, South Africa, Dec. 3, 1948). Physicist and leader who led to international recognition for discovery which led to development of radio telephony. Researcher with the American Telephone & Telegraph Company and the Western Electric Company, 1913-20; technical adviser to the South African Government since 1920. Founder (1923) and director of the Electricity Supply Commission and the South African Iron and Steel Industrial Corporation (1928), chairman and managing director of the African Metals Corporation since 1937, chairman of the Industrial Development Corporation, 1940-44; director general of supplies, 1945-46.

Voge, Richard George (b. Chester, Ill., May 4, 1904—d. Port Chester, N.Y., Nov. 17, 1948). Rear Admiral, USN (retired), and a specialist in submarine warfare. Graduated from Annapolis in 1925, served as operations officer of submarine fleets in the Pacific during World War II, and won many naval awards for heroism.

Vogué, Louis, Marquis de (b. 1808—d. Paris, France, Mar. 2, 1948). Chairman of the Suez Canal Company since 1927, president of the French agricultural society, and a director in the Bank for International Settlements.

Vollmoeller, Karl G. (b. Germany, May 7, 1878—d. Hollywood, Calif., Oct. 18, 1948). Playwright, novelist, and screen writer; author of the famous play, *The Miracle*, which starred his former wife, Maria Carmi. Other plays include *Early Gardens; Giulia; The German Count; Antigone; and Wieland.*

Wachsman, Zvi H. (b. Meshmar Hayayon, Palestine, 1904—d. Montreal, Canada, Sept. 13, 1948). Author, journalist, and correspondent for several Jewish newspapers. Member of the executive board of the Federation of Polish Jews and vice chairman of Palestine Pioneers Foundation. A linguist and author of books in several languages.

Wallace, George Barclay (b. Detroit, Mich., Sept. 21, 1874—d. New York, N.Y., Jan. 15, 1948). Physician, educator, and researcher noted for his work on the biological effects of stimulants and anesthetics. Professor emeritus on the faculty of New York University College of Medicine, 1902-46, and founder of the school's Department of Pharmacology.

Wallace, Nellie (b. Glasgow, Scotland, Mar. 18, 1870—d. London, England, Nov. 24, 1948). Music-hall comedienne and one of Great Britain's best-loved troupers. Beginning her career at the age of 12 as a clown-hopper, she made her last appearance in a Royal Variety Program this fall.

Wallenberg, Ernst (b. Berlin, Germany, 1879?—d. New York, N.Y., Aug. 21, 1948). Journalist, foreign correspondent, and editor of the Ullstein publishing house, Berlin, 1906-33. Sometime editor in chief of *B. Z. Am Mittag; Vossische Zeitung; and Tempo*; American correspondent for Ullstein papers, 1904, 1931; and author of the well-known language textbook series *1000 Words.*

Wasson, Thomas Campbell (b. Great Falls, Mont., Feb. 8, 1896—d. Jerusalem, Palestine, May 23, 1948). United States consul general in Jerusalem, formerly first secretary at the American Embassy, Paris, and from 1942-46, in the Department of State. He died from wounds received from a sniper's bullet.

Watson, Charles Roger (b. Cairo, Egypt, July 17, 1873—d. Philadelphia, Pa., Jan. 11, 1948). Presbyterian clergyman, missionary, and authority on the Arab world and Moslem religion. Founded (1914) and president of the American University at Cairo, Egypt, 1922-45.

Watson, Ernest Milton (b. Warwick, R.I., 1884—d. Buffalo, N.Y., Dec. 5, 1948). Noted urologist, consultant at several hospitals, and the author of more than 100 papers on urology, some of which gained him international recognition.

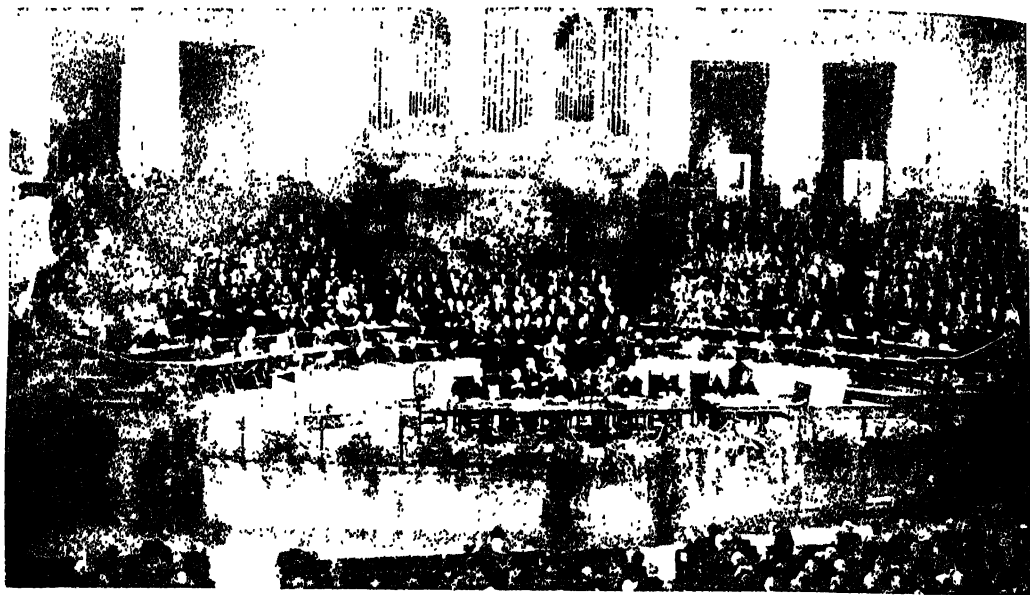
Watson, James Eli (b. Winchester, Ind., Nov. 2, 1863—d. Washington, D.C., July 29, 1948). Lawyer, politician, and Republican majority leader in the Senate, 1929-33. He served as congressman, 1895-97, 1899-1909; and as a senator from 1916-33.

Watt, Homer Andrew (b. Wilkes-Barre, Pa., Sept. 11, 1884—d. New York, N.Y., Oct. 4, 1948). Scholar, educator, head of the English department at New York University since 1938, and a faculty member since 1916. The author of many college textbooks in English literature and co-author of *Legends of Paul Bunyan, Lumberjack.*

Waxman, Percy (b. Australia, 1881—d. New York, N.Y., Jan. 12, 1948). Author, radio commentator, and associate editor of *Cosmopolitan* magazine since 1935. Between 1925-30 he edited the *Pictorial Review*. Written works include *The Black Napoleon and What Price Mallorca.*



Netherlands Information Bureau
QUEEN OF THE NETHERLANDS. On September 6, 1948, the new Queen, Juliana, took the oath to the Constitution of the Netherlands and was formally invested in a civil ceremony before a joint session of the States-General.



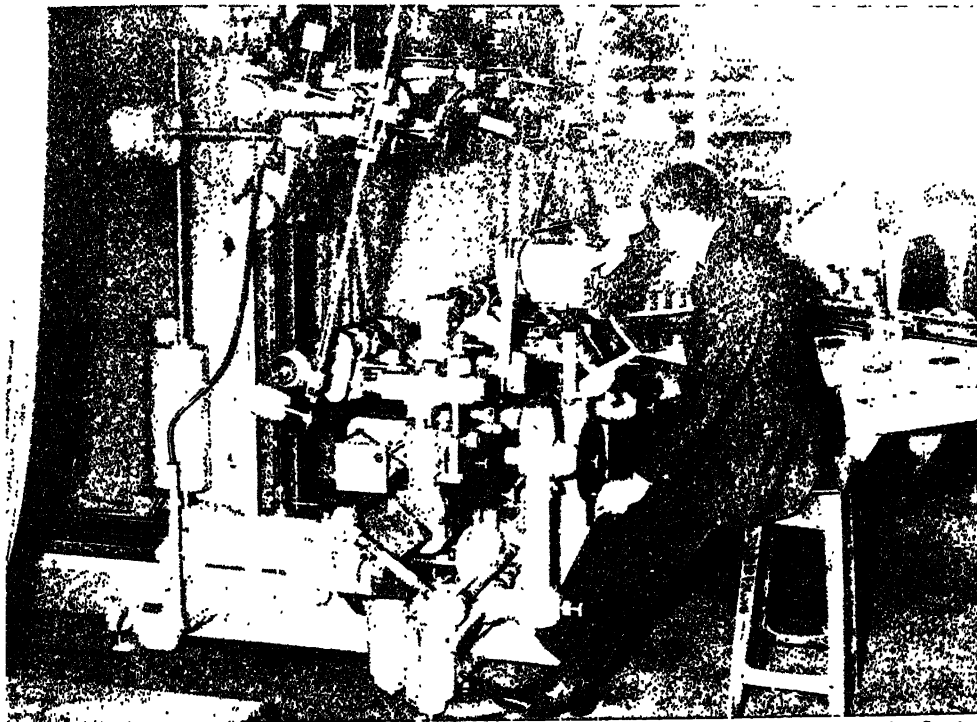
THE WORLD COUNCIL OF CHURCHES, meeting in an International Assembly at Amsterdam, Holland, attempted a great step toward the reunion of Protestant and Orthodox church bodies. The Council issued a report in 1948 on "The Church and the Disorder of Society," which analyzed and condemned communism and laissez-faire capitalism.



European

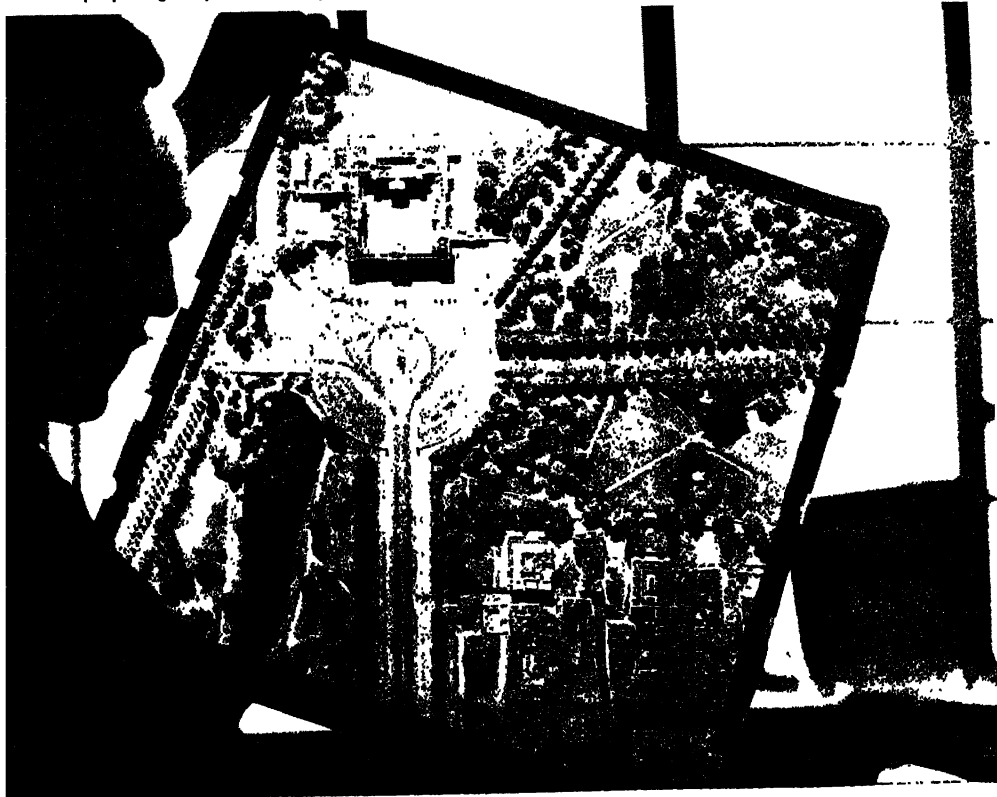
PRESIDENT ELPIDIO QUIRINO of the Republic of the Philippines, who assumed office on Apr. 17, 1948, following the death of President Manuel A. Roxas y Acuna during the day, Apr. 15, 1948.

◀ **IN COAL** lies the importance of the Norwegian possession of Spitsbergen, a glimpse of which can be seen through the bars in the photograph.

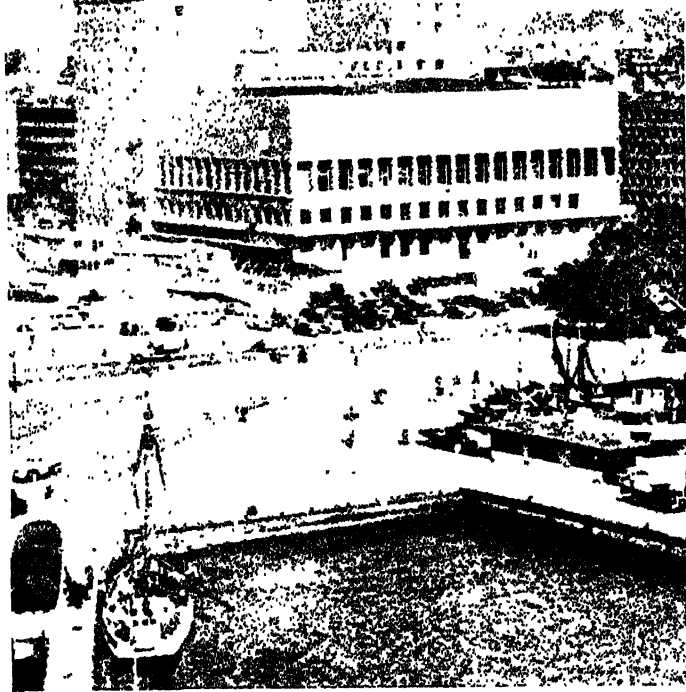


British Information Services

G MAPMAKERS aid replanning of Great Britain. From its headquarters at Chessington, Surrey, Great Britain's Ordnance Survey Office is carrying out a new and complete survey of the country. (Top): The Zeiss Stereoplanigraph, one of the Ordnance Survey Office's most elaborate plotting machines. The operator sees a stereoscopic image of the map by remote control on the table at the right. (Below): A transparency, scale 50 inches to a mile, used in preparing maps for town planners. It is of London's Buckingham Palace and St. James's Palace areas.

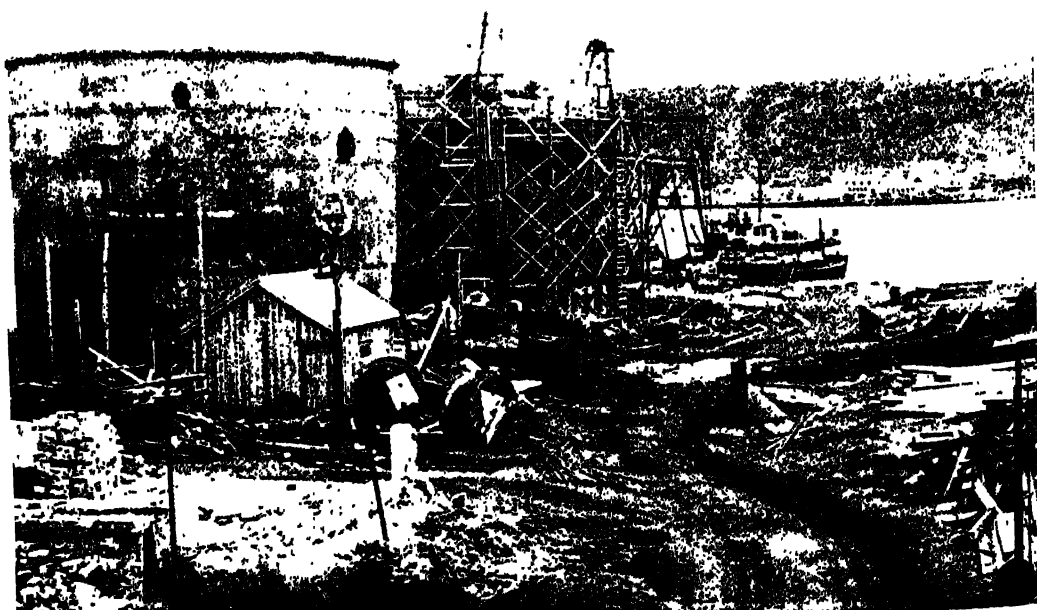


◀ **RECONSTRUCTION IN NORWAY.** The Town Hall of Oslo, the capital of Norway, being reconstructed. A view of the harbor is shown in the foreground.



▼ **OIL-STORAGE REPAIRS.** Shell blasted oil-storage tanks shown under reconstruction in the northern region of Norway.

Norwegian Official Photos



Weaver, Raymond Melbourne (b. Baltimore, Md., July 7, 1888—d. New York, N.Y., Apr. 4, 1948). Educator, author, professor of English at Columbia University since 1947, and a faculty member since 1918. An authority on Herman Melville, he edited the Constable edition of Melville's works and the Colophon edition of *Journal Up the Straits*. He was the author of *Herman Melville, Mariner and Mystic*, etc.

Weaver, Zebulon (b. Weaverville, N.C., May 12, 1872—d. Asheville, N.C., Oct. 29, 1948). Corporation lawyer, politician, and Democratic congressman from North Carolina, 1917-29, 1931-47.

Weddell, Alexander Wilbourne (b. Richmond, Va., Apr. 6, 1876—d. near Otterville, Mo., Jan. 1, 1948). Diplomat; United States ambassador to Argentina, 1933-39; to Spain, 1939-42; and special ambassador to Turkey, 1946. He was a delegate to Pan American conferences in 1933 and 1935. With his wife, founder of the Virginia Museum of Fine Arts.

Wedderburn, Joseph Henry MacLagan (b. Forfar, Scotland, Feb. 26, 1882—d. Princeton, N.J., October, 1948). Mathematician and professor at Princeton University, 1928-45 (since emeritus), where he had taught since 1909. Noted for his work in the field of algebra, he was a fellow of the Royal Society, and of the A.A.A.S., as well as member of many scientific societies. Between 1911-45, he was associated with the *Annals of Mathematics*.

Weidenreich, Franz (b. Edenkoben, Germany, 1873—d. New York, N.Y., July 11, 1948). Physical anthropologist, educator, and author; research associate, American Museum of Natural History, since 1941. Sometime professor at various German universities; visiting professor at the University of Chicago, and the Peiping Union Medical College. Best known for his studies of the Peking man and fossil man generally. Author of *Apes, Giants and Man*.

Weir, John M. (b. Indianapolis, Ind., Sept. 6, 1891—d. Washington, D.C., Nov. 21, 1948). Brigadier General, AUS (retired), and assistant to the Judge Advocate General during World War II. Member of military tribunal before which 8 Nazi saboteurs caught in this country were tried.

Wenyon, Charles Morley (b. Liverpool, England, Mar. 24, 1878—d. London, England, Oct. 24, 1948). Protozoologist, authority on tropical medicine, and director in chief of the Wellcome Research Institute, 1924-44. From the mass of his scientific writings the outstanding contribution to medical literature was the standard *Protozoology*.

Werth, Albertus Johannes (b. Malmesbury, Cape Province, Mar. 6, 1888—d. George, Cape Province, Mar. 4, 1948). Politician and a leader in the South African Nationalist Party. Administrator of Southwest Africa, 1926-39; member of the Union Assembly, 1920-26; sometime minister of finance.

West, James Edward (b. Washington, D.C., May 16, 1876—d. New Rochelle, N.Y., May 15, 1948). Lawyer; chief executive, Boy Scouts of America, 1911-43; and editor of *Boys' Life*, 1922-43. His many activities on behalf of children included organization of the Child Rescue League.

West, Milton H. (b. El Rancho, Tex., June 30, 1888—d. Washington, D.C., Oct. 28, 1948). Lawyer, politician, and Democratic congressman from Texas since 1933. He was a member of the House Ways and Means Committee and took an interest in tariff and tax legislation.

Wejfen, Albert Richard (b. London, England, Aug. 20, 1900—d. San Francisco, Calif., Mar. 8, 1948). Author of adventure and sea stories, awarded the O. Henry prize (1926) for his *Command*. Other writings include *Captains All*, *Fiddlers Green*, *In the Wake of the Shark*, etc. Co-founder of the *Outlander*, and contributor to *The Saturday Evening Post*.

White, Harry Dexter (b. Boston, Mass., Oct. 29, 1892—d. Fitzwilliam, N.H., Aug. 16, 1948). Economist and outstanding authority on monetary questions. Sometime assistant secretary of the Treasury; he entered government service in 1934 and resigned in 1947, as director for the United States on the International Monetary Fund. He was a recent key witness before the Un-American Activities Committee.

White, Newman Ivey (b. Statesville, N.C., Feb. 3, 1892—d. Cambridge, Mass., Dec. 5, 1948). Scholar, author, educator, and chairman of the department of English at Duke University, where he had taught since 1919. Regarded as an eminent authority on Shelley and the romantic movement, he published *The Best of Shelley, Portrait of Shelley*, and a two-volume *Shelley*. He was president of the North Carolina Folklore Society; editor of the forthcoming Frank C. Brown collection of North Carolina folklore; advisory editor of the Modern Language Association on all matters pertaining to Shelley scholarship. An *Anthology of Verse by American Negroes and American Negro Folksongs* were also compiled and edited by him.

Whitlock, Herbert Percy (b. New York, N.Y., July 31, 1868—d. New York, N.Y., Feb. 22, 1948). Mineralogist, regarded as an authority in the field. Curator of mineralogy, Museum of Natural History, 1918-41. Author of two popular volumes: *The Story of the Minerals* and *The Story of the Gems*.

Whitten-Brown, Sir Arthur (b. Manchester, England, 1886—d. London, England, Oct. 8, 1948). Aviator and former Royal Air Force officer, who with Sir John Alcock made the first non-stop flight across the Atlantic, in June, 1919.

Whitty, Dame May (b. Liverpool, England, June 19, 1865—d. Hollywood, Calif., May 29, 1948). Distinguished character actress of the English and American stage. She made her London debut in 1882. New York debut in 1895, and screen debut in 1937. One of her greatest triumphs was in *Night Must Fall* (stage and screen). Recent films in which she appeared were: *Green Dolphin Street*, *If Winter Comes*, and *The Sign of the Ram*. In private life she was Mrs. Ben Webster.

William, Warren (b. Aitkin, Minn., 1895—d. Encino, Calif., Sept. 24, 1948). Screen actor whose real name was Warren William Krech. In a movie career which began in 1932 he became noted for his portrayal of slenths and was featured in some 60 films, including *The Mouthpiece*, *The Match King*, *Arizona*, and the *Lone Wolf* series.

Willson, Russell (b. Fredonia, N.Y., Dec. 27, 1883—d. Bethesda, Md., July 6, 1948). Vice Admiral, USN, retired; deputy commander in chief of the fleet, 1942-43. An inventor and expert in the field of secret communication, he served on the Joint Strategic Survey Committee of the Joint Chiefs of Staff during World War II.

Wilson, Lewis R. (b. Elwood City, Pa., 1900—d. Baltimore, Md., Nov. 23, 1948). Baseball star and holder of the National League home-run record, who as Hack Wilson hit 56 home runs in 1930. Began baseball career in 1921, played for the Giants, 1923-25, and for the Chicago Cubs, 1926-31.

Wilson, Thomas Webber (b. Coldwater, Miss., Jan. 24, 1893—d. Coldwater, Miss., Jan. 31, 1948). Lawyer and chairman of the Federal Parole Board since 1946; Federal judge in the Virgin Islands, 1933-35; and Democratic congressman from Mississippi, 1923-29.

Wilson, William (b. Preston, England, 1887—d. Raleigh, N.C., May 6, 1948). Physicist, radio engineer, professor of physics at the University of North Carolina, and formerly vice president of the Bell Telephone Laboratories. A specialist in radio, he helped develop the vacuum tube.

Winternitz, Felix (b. Linz, Austria, 1879—d. Cambridge, Mass., Aug. 19, 1948). Violinist, composer, and teacher; a member of the faculty of the New England Conservatory of Music, since 1891. Sometime member of the Imperial Opera, Vienna, and of the Boston Symphony Orchestra. His compositions include *Troika*, *Dream of Youth*, *Forsaken*.

Wolf-Ferrari, Ermanno (b. Venice, Italy, Jan. 12, 1876—d. Venice, Italy, Jan. 21, 1948). Operatic composer whose best known work was *The Jewels of the Madonna*. Other operas include *Le donne cuiose*, *Il segreto di Susanna*, *L'amore medico*, etc.

Wood, Martha (b. Richfield, N.Y., 1892—d. Washington, D.C., Sept. 28, 1948). Child welfare worker of international repute and, since 1945, field director of the social service division of the Federal Children's Bureau. Sometime Pennsylvania field representative for the American Red Cross, and a member of the American Commission to Serbia, 1921-22.

Woods, Albert Fred (b. Belvidere, Ill., Dec. 25, 1866—d. Hyattsville, Md., Apr. 12, 1948). Botanist associated with the United States Department of Agriculture, as educational adviser (1941-47), and as director of scientific work (1926-34). Between 1917-26 he was president of the University of Maryland.

Woodson, Walter Browne (b. Lynchburg, Va., Oct. 18, 1881—d. Coronado, Calif., Apr. 22, 1948). Rear Admiral, USN; naval aide to President Roosevelt, 1936-38; and judge advocate general, 1938-43.

Woolf, Samuel Johnson (b. New York, Feb. 12, 1880—d. New York, Dec. 3, 1948). Artist and writer, noted for his portrait sketches and interviews with famous people. Most of his work appeared in *The New York Times*, earlier work having appeared in *Colliers*. Represented by works in the Metropolitan Museum of Art, the New York Public Library, etc. Written works include *A Short History of Art*, *Drawn from Life*, and *Here Am I*.

Wright, Orville (b. Dayton, Ohio, Aug. 19, 1871—d. Dayton, Ohio, Jan. 30, 1948). Co-inventor with his brother Wilbur of heavier-than-air aircraft. Made first power-driven flight at Kitty Hawk, N.C., in 1903.

Wrong, George Mackinnon (b. Canada, June 25, 1860—d. Toronto, Canada, June 29, 1948). Historian, author, and educator. Professor emeritus of history at the University of Toronto (1894-1927). Author of *The Fall of Canada*, *The Conquest of New France*, *The Canadians: The Story of a People*, etc.

Wynne, John (b. New York, N.Y., Sept. 30, 1859—d. New York, N.Y., Nov. 30, 1948). Jesuit priest and scholar; founder and first editor of *America* (1909-10), and editor of its predecessor, *The Messenger* (1891-1909). He also originated idea for *Catholic Encyclopedia*, which he edited from 1911-12. Served on Cardinal Hayes' Literature Committee and was the author of several religious books.

Yahya Muhammad Hamid ed Din (b. 1866—d. Sanaa, Yemen, reported Feb. 19, 1948). Imam (king-priest) of Yemen since 1934, ascended the throne in 1904. Reportedly murdered together with three of his sons. Sayed Abdullah Ibn Ahmed el-Wazir proclaimed Imam to succeed Yahya.

Yonai, Mitsumasa (b. Iwateken, Japan, March, 1880—d. Tokyo, Japan, Apr. 20, 1948). Admiral, statesman, and minister of the Navy, 1937-40, 1944-45. An opponent of Tojo militarists, his premiership in 1940 was of short duration.

Youngman, Elmer H. (b. New Lebanon, Ind., 1861; d. Brooklyn, N.Y., Oct. 13, 1948). Financial writer; editor of *The Bankers Magazine*, 1893-1943, the section on Banking in the *Encyclopedia Americana*, and *History of Banking*, by Knox. He was the author of *Credit Currency, Banks and Banking, Banking in the United States, Private Banks*, etc.

Zaccani, Ernesto (b. Montecelio di Reggio, Italy, Sept. 14, 1857;—d. Viareggio, Italy, Oct. 14, 1948). A leading character actor who achieved his greatest success, when past 80 years of age, in the role of Socrates in his own adaptation of Plato's *Phaedon*. He introduced Ibsen's dramas to the Italian public, one of his best roles being that of Oswald in *Ghosts*.

Zenardi-Landi, Elizabeth Marie Christine. See **Landi, Elissa**.

Zhdanov, Andrei Alexandrovich (b. Mariupol, Caucasus, Russia, Feb. 26, 1896;—d. near Moscow, U.S.S.R., Aug. 31, 1948). Colonel General of the Red Army; directed the defense of Leningrad in World War II, and the winter war against Finland, 1939-40. A member of the Bolshevik Party since 1915, a party official since 1922, and an outstanding theoretician and propagandist. Until 1940, secretary of the Central Committee of the Communist Party of the Soviet Union; a member of the Politburo, the Presidium, Supreme Council of the U.S.S.R.; and acknowledged leader of the Communists.

Zilcher, Hermann (b. Frankfurt a/M, Germany, Aug. 18, 1881; d. Würzburg, Germany, Jan. 17, 1948). Concert pianist and composer of choral, instrumental, and orchestral music. Since 1920, director of the conservatory at Würzburg, and famous for his staging at Mozart festivals.

Zimmerman, Orville (b. Glen Allen, Mo., Dec. 31, 1880;—d. Washington, D.C., Apr. 7, 1948). Democratic congressman from Missouri, since 1935.

NEGROES. Africa. Economically, the 44 percent of the continent of Africa which is ruled by Great Britain is becoming increasingly important to that country as a source of foodstuffs, raw materials, and strategic defense. This condition, coupled with the fact of a Labor government, may be largely responsible for the more enlightened colonial policies in these possessions. Through British colonial development and welfare appropriations planning, some schools and a few other social services have accelerated progress. In West Africa where local movements for self-government or independence among the native people are strong, the Africans have achieved a majority in the legislative councils. There is also a marked increase in the number of native civil servants. In 1948 there were 322 African students studying in 111 American colleges and universities.

The "modernization" of the African people proceeds unevenly. For example, British East Africa is far behind British and French West Africa in almost every respect when it comes to opportunity and advancement of the native peoples. The French territories continue to make "Frenchmen" of all black subjects of the educated and military class and to incorporate larger and larger blocks of its holdings into the French federated union. There are no Africans in American colleges from the Belgian Congo where vocational training is insisted on and overseas education of any sort frowned upon, nor are there any from Portuguese Africa. These areas do not have a good reputation for helpfulness to the indigenous peoples. A. T. Steele, writing for the *New York Herald Tribune*, said about one part of Africa what could be said about most of it; that the Europeans there "do not want a highly educated, politically conscious [leadership] that might agitate for self rule."

Probably the native Africans' lot is worst in the Union of South Africa where much ground has been lost in recent months. The avowedly anti-native, pro-segregation government of Dr. F. S. Malan has consolidated its control. The limited franchise previously exercised by a few blacks and the Cape Province colored has been further reduced, almost to the vanishing point. Accordingly, the Natives Representative Council has "struck" against continuing its meaningless meetings.

The African National Congress, led by Dr. A. B. Xuma, has made bold to criticize the government's policy, pointing out the inevitable consequences of sultriness and violence. These grave predictions have come true, though in a curious form—that is, verbal and physical clashes have broken out between the native Africans and the East Indians who live in South Africa. The Africans charge that the Indian merchants mercilessly exploit them. What they do not say is that the rebellion of the unarmed and poorly organized blacks against the pressures placed on them by the white-minority whites is turned toward the relatively peaceful East Indians. These outbreaks have broken up the "united front" that African and Indian leaders had effected a few years before and which had enabled them to beat back the efforts of the Union to impose a more definite pattern of racial segregation on its East Indian residents and to annex the mandated territories of Southwest Africa.

West Indies. The Caribbean Commission continued its quiet and systematic work of coordinating the efforts of the various imperialist and resident interests of the region. The republic of Haiti celebrated its 148 years of independence with elaborate ceremonies. The American Negro governor of the Virgin Islands, William H. Hastie, at the close of the year appeared to have established rapport with the dissident groups that have been insisting on local control of the islands' affairs.

United States. Economics and Politics. The general fight for fair employment practices failed to gain a federal law but the principle was incorporated in the procedures of the federal civil service. The Citizens' Trust Company of Atlanta, Ga., became the first Negro bank to be admitted to the Federal Reserve System.

The two Negro members of Congress, Representatives A. Clayton Powell and Wm. L. Dawson, were returned to office. Dawson is the first Negro to head a committee as important as the House Committee on Expenditures in Executive Departments. Attorney Oliver C. Hill was the first Negro to take a seat on the Richmond, Va., city council since Reconstruction days. Negro participation in politics in the border States increased without undue friction. In the deep South, however, such efforts were marked by tension and clashes. Herman Talmadge openly campaigned in Georgia on an anti-civil-rights-for-Negroes platform. Negroes, joined by the few liberals and progressives of Georgia, fought back. They were overwhelmed by the Talmadge landslide.

Social and Cultural Developments. The break between Walter White, Executive Secretary, and W. E. B. DuBois, Director of Research of the National Association for the Advancement of Colored People, was partly personal, partly political and institutional. Dr. DuBois, one of the founders of NAACP, was fired and joined the Council on African Affairs.

The Southern Conference for Human Welfare suspended activity. The newspaper *PM*, highly favorable to the Negro's cause, folded, as did *People's Voice*, a left-wing Negro weekly. The *New York Age*, an important Negro paper for a half-century, was purchased by an Englishman, Richard Bourne-Vannet, for his Negro wife. See **CARIBBEAN COMMISSION; SOUTH AFRICA; UNION OF; etc.**

—L. D. REDDICK

NEPAL. An independent kingdom between Tibet and India. Area: 54,000 square miles. The territory includes Mount Everest (29,002 ft. high). Population (estimated): 7 million. Capital, Katman-

du (pop. 108,805). Gurkhas, Magars, Eurungs, and Bhotias are the chief races. Hinduism is the predominant religion. The economy of Nepal depends primarily on agriculture and livestock. There are many fertile valleys and valuable forests. Rice, jute, hides, cattle, lumber, oilseeds, medicinal herbs, and ghee are the main exports. Imports include cattle, sheep, goats, spices, textiles, metal products, sugar, and salt. The annual gross revenue amounts to 12,500,000 rupees. Nepal's government is a military aristocracy based on birth. All power is in the hands of the prime minister, a member of the ruling family. Ruler: Tribhubana Bir Bikram (succeeded to the throne, Dec. 11, 1911). Prime Minister: Maharaja Sir Mahan Shumshere Jung Bahadur Rana (succeeded Apr. 30, 1948).

NETHERLANDS. A constitutional monarchy of northwestern Europe. Capital, Amsterdam; seat of the Government, The Hague. Sovereign, Queen Juliana, who ascended the throne on Sept. 6, 1948 (see *Events*, below). Premier, Willem Drees.

Area and Population. The area, including water belonging to municipal territories, is 15,764 square miles. The population on July 1, 1948, was estimated at 9,782,000. Vital statistics in 1947 (rate per 1,000): births, 27.8; deaths, 8.1; marriages, 10.2. Population of the chief cities, in 1947, Amsterdam, 807,490; Rotterdam, 645,417; The Hague ('s Gravenhage), 534,135.

Production. Agriculture, manufacturing, commerce, and mining are the principal industries. Chief agricultural products in 1947 (monthly averages): milk, 2,338,000 hectolitres; butter, 4,400 metric tons; cheese, 5,400 tons; meat, 18,400 tons. The index of industrial production reached 116 in September, 1948 (1938 = 100).

Foreign Trade. Total imports in 1947 were valued at 4,200 million guilders; exports at 1,900 million guilders. For the first half of 1948, imports were 2,359 and exports 1,178 million guilders.

Finance. The budget for 1949, as announced in September, 1948, anticipates a deficit of 660 million guilders, as compared to a deficit of 1,750 million in 1948. Total expenditure for 1949 is estimated at 3,963 million guilders against 4,592 million in 1948; revenue at 3,303 million guilders against 2,841 million.

Government. The Constitution of 1814, with its various amendments, vests executive power exclusively in the sovereign while legislative authority rests co-jointly in the sovereign and the States-General (Parliament). The States-General consists of an upper chamber of 50 members, chosen by elected representative bodies in the several provinces for terms of six years; and of a lower chamber of 100 members elected for four years by general adult suffrage. In practice the Cabinet is responsible to the States-General and the Premier is normally chosen by the sovereign from a political group commanding a parliamentary majority.

The Constitution was amended on Sept. 20, 1948, to legalize the equal partnership between the Netherlands and the United States of Indonesia as provided for by the Cheribon Agreement of Nov. 12, 1946.

Events, 1948. The most important event of the year was the abdication of Queen Wilhelmina, after a 50-year reign and the accession to the throne of her daughter Juliana.

After having left the realm for six weeks in the hands of Crown Princess Juliana (see *YEAR BOOK* for 1947), Queen Wilhelmina again resumed her royal duties on Dec. 1, 1947. But it soon became apparent that her physical strength no longer was

equal to the task. She was advised by her doctors to retire for good. On the other hand, the Queen, the Crown Princess, and the Cabinet agreed that the change of reign should be postponed until after the Golden Jubilee in early September.

Accordingly, Wilhelmina announced in a radio address on May 12 that she would abdicate immediately after the celebration and that in the meantime another regency would go into effect. Two days later Juliana for the second time in a year was sworn in as Regent. On August 30, her mother, as scheduled, made a brief return as Queen to accept the homage of her nation on the occasion of her 68th birthday (August 31) and of the fiftieth anniversary of her accession to the throne (September 6). The double event, culminating in the installation of the new sovereign was marked by a week of celebrations. On September 4 Queen Wilhelmina signed the instrument of abdication in the Royal Palace at Amsterdam in the presence of the Cabinet Ministers and the leaders of the States-General. Two days later the solemn investiture of Queen Juliana took place at the Nieuwe Kerk of Amsterdam. The ceremony was witnessed by royalty and dignitaries from all over the world. The Queen's consort, Prince Bernhard, was given the title of Prince of the Netherlands.

Juliana took over at a critical period in the history of the Dutch Empire. The unsolved Indonesian problem weighed heavily on all minds. The economic situation of the Netherlands gave rise to a good deal of concern. And the country was facing possibly hazardous commitments as a member of the new Western European Union. In her first speech from the throne, on September 21, the new Queen gave thanks to America for her aid in Dutch recovery.

General Elections. Normally the Parliament elected in May, 1946, should have served for four years. However, in view of the change of Constitution made necessary by the new relationship between the Netherlands Kingdom and the East Indies, the Government deemed it advisable to consult the entire nation on the far-reaching issues involved. Hence the States-General was dissolved in May and a general election was scheduled for July.

Twelve political parties presented candidates in the Lower House election which was held on July 7 in an atmosphere of complete calm and order. The results of the poll were unspectacular, the only change being a light shift to the right. Of the 100 seats at stake, the Catholic Party obtained 32, as before; the Labor Party lost 2, retaining 27; the Calvinist Party again took third place with 13 seats (unchanged); the Communists lost 2 seats and kept 8; the Liberals picked up 2 for a total of 8; and the Christian-Historical Union gained one for a total of nine. The extreme rightist State Reformed Party kept its 2 seats and a dissident Catholic group won one. The distribution of seats in the Upper House, elected on July 8, remained unchanged: Catholics, 17; Labor, 14; Calvinists, 7; Christian-Historians, 5; Communists, 4; Liberals, 3.

New Government. On the day of the general election, the Catholic-Labor coalition Government headed by Premier L. J. M. Beel resigned in accordance with customary procedure. The Catholic Party still being the strongest in Parliament, Princess Regent Juliana again asked the Party leader, Beel, to form a Cabinet. After two unsuccessful attempts to broaden the basis of his previous coalition Government, Beel gave up on July 31. The Regent then turned to the Social-Democratic leader Willem Drees who succeeded in forming a four-

party coalition on August 7. In the new Cabinet, the Catholics hold 6 portfolios, the Labor Party (Social-Democrats) 5, and the Christian-Historical Union and Liberals one each. J. R. H. van Schaiek, Catholic leader in the Lower House, was named Deputy Premier. The Foreign Ministry went to Dr. D. U. Stikker, Liberal.

In its declaration of policy, on August 12, the new Government promised to strive for a settlement of the Indonesian dispute acceptable to both sides; to end rationing at an early date; and to strengthen the economic union of the "Benelux" states.

On August 19, Parliament, by a vote of 76 to 22, passed the constitutional amendment granting sovereignty to Indonesia on the basis of equal partnership with the Netherlands. In the course of the constitutional revision, an amendment providing for the transfer of civil authority in the event of an internal threat and another granting a pension to the retiring Queen Wilhelmina also were adopted. The amendments were signed by Wilhelmina on September 3 in her last official act before abdicating. They went into effect on September 20.

Relations with Indonesia. In a broadcast from The Hague, February 3, Queen Wilhelmina declared that "colonialism is dead," and that "a free federated Indonesia is about to take her place among the democratic nations of the world." However the Far Eastern partner referred to by the Queen was the Dutch-sponsored federation of Indonesian states (East Indonesia, Borneo, West Java, etc.) exclusive of what normally should be the most essential element in that federation: the Indonesian Republic in Central Java and Sumatra. For the difficulties placed in the way of integral fulfillment of the Cheribon Agreement by Republican intransigence as well as by the Dutch "police action" of July-August, 1947, continued. Little progress was made during the year toward an effective solution of the tangled problem.

Hubertus J. Van Mook, Dutch Governor General of Indonesia, resigned in October and on November 1 his post was taken over by former Premier Beel. On October 28, the new Dutch Foreign Minister Stikker departed for Java by plane for direct negotiations with the Indonesian Republican Government of Premier Mohammed Hatta. Upon his return to The Hague, Stikker presented to the Cabinet a lengthy report which showed that no immediate solution was in sight yet.

Meanwhile an emergency bill authorizing formation of an Indonesian interim Government had been passed by the two houses of the States-General. It was signed by Queen Juliana on October 30 (see INDONESIA).

The Economic Situation. The economic picture of the Netherlands remained several shades darker than in neighboring Belgium, a condition that of itself was apt to jeopardize the proposed economic union between the two countries. In a move to place the prospective partners on an equal footing, economically speaking, the economic ministers of Belgium, The Netherlands, and Luxembourg held a conference at Château d'Ardennes early in June (see EVENTS, BELGIUM). The decisions of the conference were reported to entail, among other things, an almost complete liquidation of the Dutch rationing system before Jan. 1, 1950; abolition of Dutch import subsidies, amounting to 500 million guilders annually; and a material relaxation of Dutch control over prices, imports, and exports. In partial confirmation of these reports, state subsidies were ended on November 8.

A primary source of concern was the continuing

adverse balance in foreign trade. Both in 1946 and 1947 huge deficits had been piled up. In the year under review, imports still were running far ahead of exports, though on a diminished scale. Early in November, Finance Minister Pieter Liefstreek expressed the hope that in 1949 imports would be covered by exports to the extent of 68 percent, against 60 percent in 1948. However, Dutch economists feared that even if their international accounts as a whole eventually would be balanced, the shortage of dollars might persist.

— JOACHIM JOESTEN

NETHERLANDS LITERATURE. Situated in the center of Western Europe, the Low Countries, which form one linguistic province with the exception of Southeastern Belgium, have taken a very active part in the cultural life of the Atlantic region since their first literary endeavors. Influences of the surrounding peoples have had fruitful results; on the other hand, they have served as a spiritual bridge between France, Western Germany, and England. That is why most currents in these countries could make themselves felt here, if they harmonized in any way with the people's character, which is determined by realism and religiosity. This wealth of many-sided culture was a source from which neighbors drew continually.

The rise of the Low Countries coincides with the decline of feudal society. They have scarcely known a separate knightly literature; criticism of the society, ruled by the nobility, existed in the satiric beast-epic *Van den Vos Reynaerde* and the strophic poems of Jacob van Maerlant. Romantic reminiscences of the feudal life reverberated until the 15th century, especially in folk songs (*Halewijn*, *Het daphnet en het Oosten* and in the drama *Lanselot*).

Practical Christianity, as preached by van Maerlant, found in his own time a counterpart in the mystical poetry of the nun Hadewijch and later in the mystical prose of Jan van Ruusbroec. The highest expression of the adoration of the Virgin Mary was found in the legend of *Beatrijs* (poet unknown). The visionary and practical life of faith were combined in the movement of the "Modern Devotion" (15th century), to which Thomas à Kempis also belonged.

Humanism and Renaissance entered the Low Countries from France, at a time (Erasmus) when the struggle between Roman Catholicism and Reformation was at its height. Inseparable from this was the conflict in the chaotic 16th century between the feudal imperialism of the Habsburg world empire and the townspeople ("the burghers"), who, striving for autonomy and led by William of Orange, gained their independence through the foundation and continuance of the Protestant Republic of the United Netherlands. The activity of the hundreds of "Rederijkerskamers," organized after the example of the "Chambres de Rhétorique," reflected very accurately the antithesis of the age. Their literary interest is especially the diligent exercise in and the final mastery of the forms of art produced by the Renaissance. To them belonged amongst others, the author of the Faustian drama *Marieken van Nieuwegeen* and the morality play *Elckerlyck* (of which *Everyman* is very probably a translation); also the militant Catholic poetess Anna Bijns and her opponent, the prosist Marinus van St. Aldegonde (according to some, the poet of the national anthem *Wilhelmus van Nassouwe*). Such typical protagonists of the Renaissance as Jan van der Noot, Carel van Mander (*Schilderboek*) and Coornhert maintained close

connections with these clubs; their influence was very strong on the poetry of resistance in the struggle for liberty. The notary Valerius collected this poetry in *Gedenckklanken* (for instance, *Wilt heden nu treden*).

After the Southern Netherlands had again been brought into subjugation under the Habsburgs, the literary life became concentrated in the Republic, especially in the Province of Holland (Amsterdam, Leiden). The didactic poem, very generally cultivated in the later Middle Ages in the Low Countries, was continued in classical form by the statesmen Jacob Cats and Constantijn Huygens (father of the physicist Christiaan Huygens). Especially the voluminous, as well as homespun works, of "Father" Cats appealed to the popular taste, as proven by the expensive editions of his *Emblemata* (illustrated parables). Huygens combined a strict Calvinism with the aspiration for the Renaissance ideal of the "uomo universale." His concise, sometimes obscurely fashioned prosody (closely related to Dunne), his gifts as composer and architect, and his extensive knowledge of the fine arts brought him far on the road to its realization. As Counsellor on the Arts for Stadtholder Frederick Henry, he fashioned his court into a focus of artistic life and in this manner assisted many young artists (Rembrandt). Modestly, he called his collected poems *Korenbloemen* (Cornflowers). To the ruling class of "Regents" also belonged the bailiff of Gooiland and Eemland, Pieter Corneliszoon Hooft, refined esthete and humanist, whose sonnets and other poems of pure rhythm, flowing melody, and powerful imagery have set a standard for the lyrics of which Netherlands literature to this very day has a larger store than of any other kind of poetry. His historical tragedies lack the dramatic force in which his realistic comedy the *Warenar* excels. Through his vigorous and finely styled description of the war of independence (*Nederlandse Historiën*), Hooft became the founder of literary prose, which has felt his influence until now.

The genius of Joost van den Vondel rose from a wider base to a greater height. His Christian conception of life and perfect mastery of the classical forms enabled him to create a series of potent Biblical tragedies, encouraged by the admiration of Hugo Grotius. With *Joseph in Dothan*, *Lucifer* (influence on Milton's *Paradise Lost*) and *Adam in Ballingschap*, he continued the line of the mediaeval mystery-play in the luxurious form of the baroque. Among his great and varied works, the passionate political satires and sensitive reactions to everyday life do excel. Bredero, who died young, gave in his comedies (among them *De Spaansche Brabander*) a reflection of Jan Steen. In his religious and amorous lyrics he is simpler and more direct than most of his contemporaries.

It was only on the lesser poets that Spinoza exercised any influence; but his philosophy has so strongly impressed the thinking of his compatriots as to make it possible for the conception of Reason to dominate the Netherlands literature of the 18th century.

The essay and the classical tragedy were practiced by many, but an inclination to imitate France, promoted by politics, smothered domestic talent. This could again breathe freely, under the Napoleonic oppression, with the ingenious but unrestrained Bilderdijk, admirer of the Greeks, although his aptitude was thoroughly romantic. Romanticism following him has caused no revolutions in the Netherlands. Even in its later period, under the leadership of the poet, essayist and critic Pot-

gieter (the monthly *De Gids*), it remained shackled to classicism, although together with the critic Busken Huet he steadily aspired to an idealistic realism. Alone stood the ingenious but undisciplined Multatuli (pen-name of Douwes Dekker), whose novel *Max Havelaar* has exercised great influence on the colonial problem, and whose *Ideën* inspired the younger generation.

The long servility (since the 18th century) of the literary arts to ethics and reasonableness was finally terminated by the group of the "Men of Eighty," who founded a monthly in 1885 called *De Nieuwe Gids*. They did not create a school: "poésie pur," naturalism, realism and symbolism were represented on equal terms in their circle. After their victory over the older generation they fell apart. Of all these artists, Albert Verwey, who insisted that the poet should be a leader in life, founded a school in the larger sense; in essence he continued in his monthly *De Beweging* the line of Potgieter. From socialist ranks came the dramatic Heijermans, the lyric poet Herman Gorter, and the mighty poetess Henriëtte Roland Holst. She returned with the generation of 1910 to the transcendental philosophy of life, for which P. C. Boutens in the meantime had created a new classic style of beauty. His magistral poetry is in many respects a contrast to the deeply heartfelt, earthly mysticism of the poet Leopold. The influence on the younger poets has been very profound. While a rich romantic art was developed at this time, first by the plastic phantasy of Louis Couperus, and later by the melancholic realism of Arthur van Schendel, the leadership in poetic art was transferred to A. Roland Holst (germane to Yeats) and M. Nijhoff. The conflict between the glorification of life and the surrender to God, which characterizes the work of the latter, is repeated in the younger poets, most pronounced by the poet and essayist H. Marsman, who died in 1940. It debouched finally in a paganistic faith in culture and this closed in essence the curve toward Boutens's Platonic idealism.

The generation of poets between 1925 and 1940 has not retreated into ivory towers, but has stood militant against the threatening powers of the new "underworld" exhorted in a lashing and severe fashion by the keenly intellectual prosaist Menno ten Braak, who also died in 1940. The war has broken off the evolutionary curve of this literary period. During the Nazi occupation resistance poetry, anonymous because of the circumstances, flourished. In the chaotic world after the liberation, literary life could not resume a steady course. There is a growing vigor in abundance: the year 1948 has yielded a very rich harvest.

Poetry. The experiences of the war produced, of course, aftereffects, directly in *Verzen uit kamp St. Michelsgestel* by Anton van Duinkerken, indirectly in Anthonie Donker's *Tondalus' Visioen*. Van Duinkerken's apologetic urge revealed itself in his collection *Tobias met den Engel*, much less significant as religious expression than *En Jezus schreef in 't Zand* by Gerrit Achterberg, who is developing into a leading poet, notwithstanding his amorphous and obscure expression. The deeply penetrating poetry of *De Toovertuin* by Hendrik de Vries excels through severe control over form and rhythm. This volume received an award from the Netherlands Society of Literature, while the award of the municipality of Amsterdam was given to Gerard den Brabander for *De Steenen Minnaar*. The poetess Vasalis again fascinated with *De Vogel Phoenix* by her extraordinarily penetrating use of imagery. The troubadour Bertus Aafjes manipu-

lated enthrallingly and playfully the warp and woof of the sonnet series in *Het Koningsgraf*.

The Essay. In brevity and effective sharpness. D. A. M. Bimendijk undoubtedly leads in this genre, as his third volume, *Tekst en Uitleg*, proves. The poet-critic Victor van Vriesland revealed a mature, philosophical insight in *De grondslag van Verstandhouding*, while Simon Vestdijk delivered a keen analysis of faith with his *Tockomst der Religie*. He limited himself in the volume *De Poolse Rutter* to esthetic contemplation. A fundamental problem was postulated by Fokke Sierksma in *Poëzie als Kunst*.

The Novel. At present the short story occupies first place. From an abundant production may be selected Rein Blijstra's *Mislukte Isolatie*, *Sophie in de Koestraat* by Amoen van Haerlote, *Bij gaslicht* by F. Bordewijk, and *De wilde groeneur* by Bep Vuyk. Next to these volumes must be mentioned the excellent etching of the environment in the novel *Spel zonder inzet* of A. van Grovelingen, who died young. More concentrated in sphere and psychology is *Vrouw en Wind* by Anna Blaman. This realism is in sharp contrast to the grubbing sensation-jottings of Simon van het Reve in *De Aanden*.

A remarkable combination of baroque abundance of imagination with almost dogmatic objectivity is revealed in the historical novel by Simon Vestdijk, *De Vuuraanbidders* (religious wars of the 17th century). On the borderline between history and the novel stands the biography of Hugo Grotius, *Vaderland in de verte* by Annie Romein-Verschoor. Concerning the reclamation of the island of Walcheren, A. den Doolder wrote *Het Verjaagde Water* (published in the United States as *Roll Back the Sea*). It was greeted with little appreciation by the literary critics. The prize of Amsterdam was given for the novel *En de akker is de wereld* to Dola de Jong, who lives in New York, as does A. Merlijn, who made a notable debut with his Indonesian novel *Bontorio*.

Drama. Five coordinated theatrical companies, subsidized by the State and the five largest municipalities, have produced but few new homemade plays. Jan de Hartog's *Skipper Next to God* (already produced in New York) was received with considerable reservation. A. Defresne wrote an original pageant for the expression of homage to Queen Wilhelmina, called 1948 *Anno Christi*. It was little appreciated by the critics. The dramas *Djadawa* by B. Faddegon and *Het Portret* by Jeanne Van Schaik-Willing appeared exclusively in printed form. Of the foreign repertoire produced by the theatrical companies, *Glass Menagerie*, *Home of the Brave* and *Christopher Blake* were very successful. —BENJAMIN HUNNINGHER

NETHERLANDS WEST INDIES. The overseas possessions of the Netherlands in the West Indies, comprising: (1) CURAÇAO, and (2) SURINAM. Total area: 54,703 square miles. Total population (1947): 340,313.

NEVADA. A mountain State. Area: 110,690 sq. mi. Population: (July 1, 1948), 142,000, compared with (1940 census) 110,247. Chief cities: Carson City (capital), 2,478 inhabitants in 1940; Reno, 21,317. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$14,578,000; total expenditure, \$15,249,000.

Elections. Truman received 30,658 votes to 29,102

for Dewey and 1,464 for Wallace, thus obtaining the 3 electoral votes. There were no races for the Senate, for Governor, or for other Statewide office. In the Congressional contest, Nevada's lone House seat changed from Republican to Democratic.

Officers, 1948. Governor, Ail Pittman; Lieut. Governor, Cliff Jones; Secretary of State, John Koontz; Attorney General, Alan H. Bible; State Treasurer, Dan W. Franks; State Auditor, G. L. Robinson; State Controller, Jerry Donovan. Chief Justice of Nevada Supreme Court: Edgar Leather.

NEW BRUNSWICK. A maritime province of eastern Canada. Area: 27,985 square miles, of which 27,473 square miles are land area. Population (1941 census): 457,401 (est. pop. 1948: 503,000). Leading religious denominations (1941) were: Roman Catholic, 220,454; Baptist, 88,766; United Church, 63,268; Anglican, 55,155; Presbyterian, 15,382. In 1916 there were 16,274 live births; 4,866 deaths; 5,866 marriages. Education (1945-46): 108,052 students enrolled in schools and colleges. Chief cities: Fredericton (capital) 10,062 inhabitants in 1941; Saint John 51,741; Moncton 22,763; Edmundston 7,096; Campbellton 6,748.

Production. The gross value of agricultural production for 1947 was \$50,848,000. Total area of field crops (1947) was 948,000 acres, valued at \$41,426,000. Chief field crops (1947): oats 6,106,000 bu. (\$5,373,000); potatoes 9,457,000 cwt. (\$19,198,000); field roots 1,927,000 cwt. (\$1,638,000). Livestock (June 1, 1947): 208,600 cattle (\$15,486,000); 43,100 horses (\$5,530,000); 92,500 swine (\$2,505,000); 95,100 sheep (\$897,000); 1,879,400 poultry (\$2,370,000). Fur farms in 1946 totaled 383 with value of fur animals estimated at \$467,125. Value of fur pelt production in 1946-47 was \$834,641. Production of fisheries (1946) amounted to \$16,419,983; the three principal kinds of fish being lobster, sardines, and herring. Dairy production included 6,908,000 lb. of creamery butter (1947) with an estimated value of \$3,636,000; factory cheese, 737,000 lb.; while total farm value of poultry meat and eggs was estimated at \$5,065,000.

Manufacturing establishments in 1946 numbered 993. They furnished employment to 22,732 persons who received \$33,151,919 in salaries and wages. The gross value of products manufactured was \$170,753,741 from materials costing \$96,389,299. The forests of New Brunswick give a leading place to its pulp, paper, and sawmill industries, although the fish-curing and packing products add to the varied output. There were 411 sawmills in operation in 1946 with gross value of products amounting to \$17,230,075.

Government. Finance (year ended Oct. 31, 1948): net combined revenue was estimated at \$23,774,174 (1947: \$25,574,374); net combined expenditure \$23,543,766 (1947: \$19,226,551). Total direct and indirect liabilities (less sinking funds) \$100,994,000 on Oct. 31, 1945. The executive authority is vested in a lieutenant governor who is advised by a ministry of the Legislative Assembly, the latter consisting of 52 members elected for a five-year term by the voters.

Ten members (all appointed for life) in the Senate and 10 members in the House of Commons represent New Brunswick in the Dominion Parliament at Ottawa. Forty-seven Liberals and five Progressive Conservatives were elected at the last provincial general election. Lieutenant Governor, D. L. MacLaren (appointed Nov. 1, 1945); Premier, J. B. McNair (Liberal; appointed Mar. 13, 1940; re-elected June 28, 1948). See CANADA.

NEW CALEDONIA. A French overseas territory in the southwest Pacific, 850 miles east of Australia. Total area (including dependent islands): 8,548 square miles. Population (1947 est.): 61,250, including 18,510 Europeans, 30,034 native Melanesians and 12,706 Tonkinese and Javanese. Capital: Nouméa (10,466 inhabitants). The dependencies of New Caledonia are: Isle of Pines, Wallis Archipelago, Fortuna and Alofi, Loyalty Islands, Huon Islands, Bélep Archipelago, Chesterfield Islands, and Walpoole.

Production and Trade. Chief agricultural products: coffee, copra, cotton, manioc, maize, tobacco, bananas, and pineapples. Mineral products include nickel (107,944 tons in 1946), chromite (24,946 tons in 1946), cobalt, iron, and manganese. Foreign trade (1946): imports 461,400,000 francs; exports 233,700,000 francs.

Government. Budget (1946): revenue and expenditure balanced at 237,650,000 francs. The territory is administered by a governor, aided by a privy council, and an elected general council. New Caledonia is represented by one delegate in each of the following: French National Assembly, the Council of the Republic, and the Assembly of the French Union. Governor: G. Parisot.

NEWFOUNDLAND. An island lying between the Gulf of St. Lawrence and the Atlantic Ocean. Its dependency, Labrador, lies north of the Gulf of St. Lawrence. Newfoundland, with Labrador, forms a part of the British Commonwealth. Capital, St. John's.

Area and Population. The area, exclusive of Labrador, is 42,734 square miles. Population was estimated at about 320,000 in 1948. Chief cities: St. John's (est. pop., 1948), 45,000; Corner Brook, 18,000. The dependency of Labrador has an area estimated at 110,000 square miles and a population estimated at 5,000.

Education and Religion. The schools are aided by the religious sects and are denominational in character, but are for the most part supported by the state as public schools. Enrollment in 1945-46 was 70,460. Memorial University College enrollment in 1946-47 was 401.

The Roman Catholic Church and the Church of England each included just above 100,000 persons in 1945. The United Church was third and the Salvation Army fourth.

Production. The greater part of the population of the island lives on the returns from fish products, newsprint, and mineral ores. All of these are produced almost entirely for export. Minerals are dominated by the iron ore from Bell Island, output about 1.5 million tons in 1947. The total estimated value of agricultural crops (incl. livestock) was \$15 million in 1946.

Foreign Trade. Exports are of supreme importance to Newfoundland. Total foreign trade in 1947-48 was \$185,519,855, more than \$38,000,000 above the previous year, 1946-47. The United States took \$27 million of exports, Britain \$13 million, and Canada \$11,660,000. The United States took more newsprint than all other countries combined. Canada was the largest supplier of goods (\$55 million) and the United States second (\$35 million). Chief imports in 1946-47 were clothing, coal, and food.

Transportation. In 1947 there were 705 miles of government railroads and 56 miles privately owned. Gander Airport is used by 10 world airlines.

Finance. Budget estimates for 1947-1948 placed revenue at \$35,702,500; expenditure at \$37,574,000. Public debt in 1948, \$72 million. Revenue comes almost entirely from customs.

Government. In December, 1983, as a result of financial difficulties caused by depression in the export industries, Newfoundland's status as a self-governing dominion of the British Commonwealth was temporarily altered. Effective Feb. 16, 1934, executive authority was vested in the Governor and a Commission of six—three Newfoundlanders and three British. The British Government assumed responsibility for Newfoundland's financial obligations and provided a grant-in-aid pending the restoration of the island's financial solvency. In 1946 a National Convention was elected to ascertain whether Newfoundland's finances were restored and to discover the form of government desired by the people. For subsequent developments see *YEAR BOOK* for 1947, pp. 357-8, and *Events*, 1948, below.

Events, 1948. The National Convention on Newfoundland's form of government, after sitting for 15 months, ended on Jan. 31, 1948. The National Convention voted 29-16 to exclude confederation with Canada from the forthcoming referendum, but a decision by the British Government, announced simultaneously in London and St. John's on March 11, provided that the ballot should allow three choices: retention of the existing form of Government by Commission, return of responsible self-government, and confederation with Canada.

In the referendum held on June 3 a small majority (about 6,000 in a poll of some 154,000) voted for responsible government, about 63,000 for confederation with Canada, and 21,900 for the existing commission form of government. Almost immediately thereafter the holding of a second referendum was called for July 22, with only two choices offered: responsible self-government and confederation with Canada.

In the July 22 referendum the vote was 77,814 for confederation and 71,258 for responsible government. The smallness of the majority created delicate problems for the future, but Prime Minister King of Canada, in a formal statement on July 30, said that the Canadian Government welcomed the plebiscite and was consulting with the governments of the United Kingdom and Newfoundland in working out the constitutional procedure. He added that the Canadian Government would be glad to receive authorized representatives of Newfoundland to negotiate the terms of union on the basis of the proposals submitted in 1947.

Terms of Union. Negotiations opened in Ottawa on October 4, with a strong Canadian delegation selected to meet the Newfoundland group headed by Albert Walsh. The negotiations were prolonged, and it was repeatedly rumored that Newfoundland was insisting on improved financial terms. On December 11, however, the terms of union were signed under which Newfoundland was to become the tenth Canadian province and the details were released. One Newfoundland member, Chesley Crosbie, did not sign.

In general Newfoundland's standing as a province will be like that of the other 9 provinces, in that it will have its own legislature and responsibilities for the major services. Its provincial government will be asked to grant to the Federal Government the use of the income, corporation, and succession taxes, in return for which Canada will pay an annual subsidy of \$180,000, plus 80 cents per head of the population, an annual subsidy of \$1.1 million for special problems arising out of Newfoundland's situation, and transitional grants for 12 years. The cost to Canada is approximately \$20 million more than the amount tentatively agreed upon in 1947.

Dissatisfied Newfoundlanders took steps to protest the agreement. While the terms were still pending, Peter Cashin, former Finance Minister, and two others flew to London to protest confederation at the bar of the House of Commons.

—ALZADA COMSTOCK

NEW GUINEA. A large island, north of Australia. It comprises Netherlands New Guinea (151,000 sq. mi.), North East New Guinea (69,700 sq. mi.)—the mainland part of the Australian mandated Territory of New Guinea, and Papua (87,786 sq. mi. excluding islands)—a Territory of Australia (formerly called British New Guinea). Total area: 308,486 square miles. Population: about one million. See NEW GUINEA, TERRITORY OF; PAPUA.

NEW GUINEA, Trust Territory of. A territory in the southwest Pacific, formerly a League of Nations mandate (1920-46). On Dec. 13, 1946, it was placed under the jurisdiction of the United Nations Trusteeship Committee. It continued to be administered by Australia. The territory includes: North East New Guinea (also called the Mainland), 69,700 square miles; Bismarck Archipelago (consisting of New Britain 14,600 sq. mi., New Ireland 3,340 sq. mi., Lavongai 460 sq. mi., and Admiralty Islands 800 sq. mi.), 19,200 square miles; and part of the Solomon Islands (Bougainville 3,380 sq. mi., Buka and adjacent small islands 220 sq. mi.), 4,100 square miles. Total area, 93,000 square miles. Total enumerated natives in patrolled areas (June 30, 1941), 684,284, including 34,087 indentured laborers; in addition, there were 4,101 Europeans and 2,228 Asiatics. Rabaul (on New Britain), had 10,174 inhabitants in 1939. Chief towns of North East New Guinea: Aitape, Lae, Madang, Monumbo, Morobe, Salamaua, Vanimo, and Wewak.

Production and Trade. The chief agricultural products are cacao, rubber, coffee, and coconuts. Gold is the most important mineral produced. Other minerals include platinum, osmium, copper, iron, sulfur, and brown coal. Timber and fish are important products. Foodstuffs, machinery, tobacco, and chemicals comprise the territory's main imports.

Government. An administrator controls the Territory and advises the Governor General of Australia on legislative matters. Administrator: Col. J. K. Murray (Sept. 13, 1945).

NEW HAMPSHIRE. A New England State. Area: 9,210 sq. mi. Population: (July 1, 1948) 548,000, compared with (1940 census) 491,524. Chief cities: Concord (capital), 27,171 inhabitants in 1940; Manchester, 77,685. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$31,963,000; total expenditure, \$32,277,000.

Elections. Dewey's 120,000 popular votes gave him a majority of about 12,000 over Truman and Wallace and earned him the State's 4 electoral votes which were Roosevelt's in 1944. Incumbent Senator Styles Bridges, Republican, was reelected. Republican nominee Sherman Adams was elected Governor. The 2 House seats remained Republican. Ernest R. D'Amours was reelected Attorney General and Arthur E. Bean was elected Comptroller.

Officers, 1948. Governor, Charles M. Dale; Lieut. Governor, None; Secretary of State, Enoch D. Fuller; Attorney General, Ernest R. D'Amours; State Treasurer, F. Gordon Kimball; State Comptroller, Stephen B. Story.

NEW HEBRIDES. A group of some 80 islands in the south Pacific, under joint administration of British and French officials. The chief islands of the group are Espiritu Santo, Malekula, Epi, Ambrym, Efate, Erromanga, and Tanna. Total area (est.) 5,700 square miles. Population (1946): 45,000, including 920 Europeans. Capital: Vila. Sugar cane, oranges, bananas, coconuts, coffee, and cacao are the main products. Foreign trade (1946): imports £335,681; exports £235,486. Finance (condominium), 1946: revenue £60,983; expenditure £18,179 (the foregoing figures on finance exclude expenditure on the revenue from the British and French National Services). The British High Commissioner and the French High Commissioner for the region delegate the powers of government for the New Hebrides to Resident Commissioners of the respective nationalities stationed on the islands.

NEW JERSEY. A middle Atlantic State. Area: 8,204 sq. mi. Population: (July 1, 1948) 4,729,000, compared with (1940 census) 4,160,165. Chief cities: Trenton (capital), 124,697 inhabitants in 1940; Newark, 429,760. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$264,518,000; total expenditure, \$265,236,000.

Legislation. The regular annual and special New Jersey legislative sessions in 1948 implemented the new constitution adopted in 1947. Consolidation of State agencies into 14 departments was about completed at the close of 1948. The judicial system also had been reorganized.

Other enactments included an important, new cash sickness benefits program for workers; new taxes on cigarettes and pari-mutuel betting; repeal of the ban on colored magazine; bond issues for high-speed highways and institutional facilities; a turnpike authority to construct toll highways; and substantial salary increases for State employees and legislators. The legislature upped minimum teachers' salaries to \$2,000; granted \$10 million for local school construction; doubled highway aid to municipalities; and increased municipal powers over building codes, recreational and parking facilities; and authorized a study of municipal governments.

Elections. Dewey won the 16 electoral votes by receiving 973,629 votes to Truman's 894,791 and Wallace's 39,077. Roosevelt's 1944 plurality over Dewey exceeded 20,000. Robert C. Hendrickson, Republican, won the Senate race. The Democrats won 5 of the 14 House seats for a gain of 3. There were no Statewide contests for State office.

Officers, 1948. Governor, Alfred E. Driscoll; Lieut. Governor, None; Secretary of State, Lloyd B. Marsh; Attorney General, Walter D. Van Riper; State Treasurer, Robert C. Hendrickson; State Auditor, Frank Durand; State Comptroller, Homer C. Zink.

NEW MEXICO. A mountain State. Area: 122,634 sq. mi. Population: (July 1, 1948) 571,000, compared with (1940 census) 531,818. Chief cities: Santa Fe (capital), 20,325 inhabitants in 1940; Albuquerque, 35,449. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$47,257,000; total expenditure, \$51,977,000.

Elections. Truman won the 4 electoral votes by a majority over Dewey and Wallace twice as large

as Roosevelt's in 1944. Democrats won all other Statewide races. Clinton P. Anderson, formerly Truman's Secretary of Agriculture, beat Republican nominee Patrick J. Hurley for the Senate. Democratic Governor Thomas J. Mabry was re-elected. The 2 House seats remained Democratic. Also elected were: Lieutenant Governor—Joe M. Montoya; Secretary of State—Mrs. M. A. Romero; Attorney General—Joe L. Martinez; Auditor—E. D. Trujillo; Treasurer—H. R. Rodgers; Superintendent of Public Instruction—Charles L. Rose; Commissioner of Public Lands—Guy Shepard. Proposals popularly approved provide for the succession when the governor-elect dies, and empower the legislature to call special sessions.

Officers, 1948. Governor, Thomas J. Mabry; Lieut. Governor, Joseph M. Montoya; Secretary of State, Mrs. Alicia Romero; Attorney General, C. C. McCulloh; State Treasurer, Ray Rodgers; State Auditor, J. D. Trujillo; State Comptroller, C. R. Sebastian.

NEWS AGENCIES. A partial list of some of the important news-gathering agencies is presented in the following lines:

Agence France Presse (AFP), founded in September, 1944, for the collection and dissemination of world news. General Manager: Paul-Louis Bret, 13 Place de la Bourse, Paris, France. North American Manager: André Rabache, 11 West 42nd St., New York 18, N.Y.

Associated Press (AP), The, founded in 1848; present corporation formed 1900. Collects and distributes news and newsphotos for newspapers and radio stations. Membership: 1,750 newspapers, 950 radio stations (approx.); also serves 1,300 (approx.) non-member newspapers and radio stations, largely outside the United States. President, Robert McLean; Executive Director, Kent Cooper; General Manager, F. J. Starzel; Secretary, Lloyd Stratton. Headquarters: 50 Rockefeller Plaza, New York 20, N.Y.

Canadian Press (CP), The, founded in 1917 to gather and distribute news for Canadian daily newspapers. Membership: 93. President, Victor Sifton; General Manager and Secretary, Gillis Purcell; Treasurer, C. A. Day. Headquarters: 55 University Ave., Toronto 1, Ont., Canada. Subsidiary: Press News Limited, formed in 1941 to serve radio stations with news. Clients: 82.

International News Service (INS), a world-wide news-gathering agency; founded in 1909. News is distributed over more than 170,000 miles of leased wires in the United States, and through powerful short-wave radio transmitters to foreign clients. INS serves newspapers, radio stations, and television stations. General Manager, Seymour Berkson; Editor-in-Chief, Barry Faris; Managing Editor, Philip G. Reed. Headquarters: 235 East 45th St., New York 17, N.Y.

North American Newspaper Alliance, Inc., an organization that furnishes authoritative stories and articles to newspapers throughout the world. Membership: 90. President, John N. Wheeler; Vice President, Henry M. Sneyily; Treasurer, Joseph B. Agnelli; Secretary, Andre F. L'Eveque. Headquarters: 229 West 43rd St., New York 18, N.Y.

Press Wireless, Inc., an organization that furnishes radio facilities for the press of the world and acts as a special press carrier. Founded in 1928. Its main transmitting and receiving stations are located within 25 miles of New York and San Francisco. It is owned by a number of the important newspapers in the United States and operates to all the important countries of the world. It handles

the majority of the country's international press traffic. Wm. J. McCambridge, President and Treasurer; T. J. Reilly, Assistant Treasurer; Alfred G. Greany, Secretary; R. A. Hilferty, Chief Engineer. Headquarters: Times Tower, 1475 Broadway, New York 16, N.Y.

Reuters News Service, an organization for the world-wide collection and distribution of news and news pictures; founded in 1849. Membership: Over 2,000. General Manager: C. J. Chancellor. Directors: H. G. Bartholomew; Lord Layton; R. A. G. Henderson; Malcolm Graham; Viscount Rothermere; J. R. Scott; W. A. Hawkins. Headquarters: 85 Fleet Street, London E.C.4, England. New York Bureau: New York Times Building, 229 West 43rd St., New York 18, N.Y.

United Press Associations (UP), an organization for the collection and distribution of world news for newspapers, and for radio and television broadcasting stations; founded June 21, 1907. President and General Manager: Hugh Baillie. Vice President and General News Manager: Earl J. Johnson. Vice President and General Business Manager: Jack Bisco. Vice President and General Foreign Manager: Joseph L. Jones. Headquarters: 220 East 42nd St., New York 17, N.Y.

NEWSPAPERS. Newspapers shared with other industries in 1948 inflationary pressures on both income and expense. The press enjoyed increasing circulations, at higher rates, and a good volume of advertising as national manufacturers and local merchants sought to obtain the volume of business necessary to maintain profitable operation; but newspaper managements were apprehensive over pay-scale increases greater than those in other businesses. Because the daily press must maintain uninterrupted production, and because savings in operations in publication are difficult to achieve, publishers viewed the coming year with mixed hopes and misgivings. The bright spot was the fact that advertisers would be required to strive for customers in a buyers' market; the darker side was the inescapable high cost of operation.

In news-gathering activities the press admittedly did well in covering the chaotic conditions of a world not at war but certainly not at peace. The newspapers in the United States lost some prestige for failing to forecast the election trends, and some objective observers thought that the editors were more preoccupied with the scare headlines of the communist spy hunt than with the daily reporting of the progress of democracy. But on the whole the critics of the press were less vocal than in recent years; and it would be fair to say that the newspapers attained a better record of recording impartially the events of the year.

An increasing supply of newsprint enabled newspapers to have a good volume of business. Canada, chief source of supply, produced 4,600,000 tons of paper. Imports from other countries seeking American dollars (250,000 tons from abroad, 375,000 from Newfoundland) and manufacture of 825,000 tons in the United States combined to give a total supply of 6 million tons. The price rose to \$100 a ton in New York (and correspondingly higher figures in the other zones of the United States) but the year saw lower and lower prices in the spot market where as much as \$240 a ton had been paid for newsprint. Publishers were concerned whether the ruling of the Federal Trade Commission barring basing point prices might upset the entire newsprint, pricing, and distribution system.

Advertising volume gained some 10 percent to 15 percent over 1947, and generally higher rates

brought the dollar volume up by 20 percent to 25 percent. With manufacturers and local retail stores actively seeking the vast purchasing power of the consumer, the newspaper fared somewhat better in the competition for the advertiser's dollar than in recent years. Radio seemed to face some uncertainty with television an unknown factor in the near future, but the daily press had no such uncertainty in its function as a sales producer.

Circulation rates were advanced in every section of the United States. This continued the trend toward obtaining a greater proportion of revenues from the reader. In New York the tabloid newspapers went from 2 cents to 3 cents a copy on week-day issues, and increases to 5 cents a copy were made in scores and even hundreds of cities and towns. Some 80 percent of daily newspapers, it was estimated, are now 5 cents a copy for the week-day issues. In Los Angeles and San Francisco the price was raised to 7 cents. Such higher prices had a tendency to check circulations in some cities because readers were feeling the pressure of the rising cost of living. But the final figures showed week-day daily newspapers in the United States reaching a total of 52,285,297 copies a day and 46,308,081 on Sundays, according to *Editor and Publisher*.

Most publishers agreed that the rates charged both readers and advertisers were approaching a peak as the year ended. They saw in a period at the year end, with many prices declining, a challenge to render a greater service to both subscriber and advertiser as the best means of maintaining that great volume of business and revenue made necessary by the sobering rise in operation costs.

Small change occurred in the number of daily newspapers in the United States in the year. A few suspensions were noted, none of them of outstanding publications. Several news journals were begun, in areas to which there had been marked population shifts, as at Oak Ridge, Tenn. A move toward joint publication operation in one plant, by competing and independent newspapers in the same cities, gained momentum as a means of reducing expenses. The keynote speech at the Newspaper Controllers' Association convention forecast this trend as the major one in publishing in the years ahead. Newspapers in Madison, Wis., and Augusta, Ga., adopted this plan in the year. In Chicago, the *Sun* and *Times* consolidated, and in Indianapolis the *Star* and *News* came under one ownership.

A notable change in ownership was that of *PM*, in New York, formerly the property of Marshall Field, and an experiment in publication without advertising. Harold Barnes and Bartley Crum acquired *PM*, renamed it the *Star*, and changed it from an evening to a morning paper.

One factor pressing for joint use of buildings and machinery was the vastly increased cost of new plants and of typesetting and printing equipment. Many newspapers had worn out their machinery during the war when replacements were unobtainable. Now the cost of replacements was staggering except for those publishers who had been able to set up large reserves. Many new buildings were pushed to completion in 1948 (the *New York Times* addition, the *Louisville Courier-Journal*, the *Dallas News*, the *Portland, Ore., Journal* among them) but other dailies delayed, because of the price of new construction, the plants urgently needed to take care of growing advertising and circulation. As manufacturers of typesetting and printing machinery caught up with their backlog of orders of long standing, deliveries were being speeded up at the year end.

Labor relations in the newspaper world were not happy. The struggle between the International Typographical Union and the publishers was intensified. The union officers maintained that the purpose of the publisher was to destroy the union, and that enforcement of the Taft-Hartley law would mean the financial ruin of their organization. The typographers insisted on having no written contracts, and the great strike against the Chicago newspapers reached a duration of 13 months as 1918 ended. In New York a strike was threatened, and the newspapers prepared at great expense to use the same methods of typed and engraved copy which Chicago had employed. But a formula, not wholly satisfactory to either side, was achieved.

In a Federal Court decision Judge Swygert held that the Typographical Union and its officers had been guilty of civil contempt of court. The union, Judge Swygert declared, had violated the injunction in offering "form contracts" which in substance required newspapers to discriminate against non-union employees. The proposed contract would have compelled non-union applicants for jobs to prove that they were competent and qualified, and would not have enforced such tests on union applicants. In November the Typographical Union notified the court that it had purged itself of contempt and had ceased all efforts to maintain a closed shop.

What the future of the dispute would be in the event of a repeal of the Taft-Hartley Act was uncertain. Many newspapers continued operations without written contracts, but with the negotiated new and higher scales and had a tacit understanding that all the old conditions of work would continue in effect insofar as they did not conflict with the law. Other unions, pressmen, stereotypers, mailers, and engravers signed contracts. Scales were increased from \$6 to \$14 weekly in cities throughout the country. A general shortage of journeymen was experienced and this condition showed no signs of improving.

After the national elections in November, in which the newspapers had failed so signally to give their readers indication of the popular political thought, there was considerable soul-searching. The public-opinion polls to which the newspapers had given much space, and their own election correspondents had obviously misread the temper of the voters. President Truman's victory was a complete surprise and no explanations would avail. As in most of the elections since 1936 the majority of the newspapers editorially had been opposed to the Democratic Party. But whereas President Roosevelt had enjoyed on the whole a good advantage in the news columns, President Truman had not.

James Reston, of the *New York Times*, summed up the mistakes of the press by saying that they were primarily a failure of reporting; that the correspondents had not left the campaign trains and gone out to learn what the people were thinking. They had not discovered the truth that the Roosevelt influence was still alive, and "were wrong, not only on the election, but what's worse, on the whole political direction of our time." Undeniably the press suffered in public esteem, but the newspapers acknowledged their failure and the experience may have been wholesome in restoring some lost value to the reporter and taking away from the fancied omniscience of the experts and "columnists" of the ivory towers.

In the United States a few minor efforts were made to limit freedom of the press—the Maryland "gag" law restricting publication of certain crime

news was a notable exception—but abroad the cause of a free press suffered. It seemed obvious that in a world in which most governments increased their control over economics, business, and production (this including allocation of newsprint) the drift would be toward greater control of the contents of the press.

In Great Britain newspapers increased in size to six pages daily, thanks to a greater supply of paper, and essential freedom was not hampered. The Royal Commission pursued its inquiry, begun by the Labor government, into charges that newspapers in Britain were being channelled into fewer hands by the owners of great chains. In Argentina the dictator Peron harassed the independent press, and foreign correspondents as well. Russia pushed its curbs on news-gathering into Czechoslovakia, and various restrictions were imposed in Yugoslavia, the Near East, and in China. The licensing of newspapers in Germany was continued and a number of publications were banned. In many countries in which no actual censorship was imposed, difficulties were placed in the way of the correspondents.

The threat of increasing costs of production and of interrupted production by reason of strikes (of which many took place in the year) led to renewed research to find new methods of setting and printing newspapers. The *Yale Daily News* began the use of typed and engraved plates as its regular daily practice. The American Newspaper Publishers Association intensified its research into the fields of printing processes. Little fundamental change in the cumbersome and varied operations of newspaper production has taken place in two generations, except in improving the speed of equipment.

Frank Starzel was made General Manager of the Associated Press in October, 1948, and Kent Cooper, who had held this post for 23 years, assumed the duties of Executive Director of this world-wide cooperative news-gathering organization.

The New York *Times* announced plans, provided lower air transportation rates could be arranged, to issue a special foreign edition to be distributed by air mail. The New York *Herald Tribune* entered into a contract with the Economic Cooperation Administration to promote the sale of its European edition in bizonia Germany. It was the first such "information media" contract with a newspaper.

Little tangible results were observed from the reports made in recent years by the Commission on the Freedom of the Press of which President Robert Hutchins of the University of Chicago was chairman. It was probable, however, that the long-range results of this critical and scholarly analysis of the newspapers would continue to be felt and that increasing pressure, both from within and without, would tend to make the newspapers more conscious of their social responsibility to democracy in the presentation of the news.

—CHARLES MCD. PUCKETTE

NEWSPRINT. The year 1948 saw considerable improvement in the newsprint supply situation in the United States, although a complete balance between demand and supply has not yet been attained. While there were no reports of actual hardship cases among newspaper publishers in 1948—as had been the case in 1946 and to a lesser extent in 1947—many of them reportedly would have used more newsprint had it been available.

Supply. The increase in supply of newsprint available to United States newspaper publishers was due almost entirely to greater imports, since there

was relatively little increase in domestic production. There was further shifting of newsprint capacity in this country to other grades, but this was counterbalanced by installation of new facilities and the more or less temporary conversion to newsprint production of machines formerly manufacturing other kinds of paper. The past year also saw the beginning of building operations on the second mill to produce newsprint from southern pine, which, when completed, will add about 100,000 tons to the annual capacity of the domestic industry.

There was a substantial increase in imports from Canada and Newfoundland which was due in part to inability of overseas consumers—due to dollar shortages—to take all the tonnage previously contracted for. The newsprint thus released found a ready market in this country.

Despite a reportedly pronounced shortage of newsprint in Europe, imports from that source—with the exception of 1937 and 1939—were the greatest on record. Approximately one-half of the imports from Europe originated in Finland, while Sweden, France, and Norway together accounted for practically all of the balance.

The following table gives the sources of newsprint used in the United States in the prewar years 1937-1939 and in the last two years. The figures for 1948 are estimated on the basis of information available at the end of the year.

TABLE 1—SOURCES OF NEWSPRINT USED IN THE UNITED STATES
(Thousands of short tons)

	U.S. output	U.S. exports	Canada	U.S. imports from Newfoundland	Europe	Available for use
1937 . . .	946	17	2,895	128	294	4,246
1938 . . .	820	6	1,963	68	243	3,088
1939 . . .	939	13	2,203	99	310	3,558
1947 . . .	826	28	3,631	198	129	4,756
1948 . . .	860(?)	28(?)	3,799(?)	229(?)	256(?)	5,116(?)

Study of the above data indicates the extent to which this country is dependent on Canada and Newfoundland for its supply of newsprint. Nearly

TABLE 2—WORLD NEWSPRINT PRODUCTION
(Thousands of short tons)

Country	1947	1948	Average 1937-1939
Canada	4,447	4,143	3,047
United States	826	771	901
Newfoundland	373	363	308
Sweden	302	290	285
Finland	297	259	475
United Kingdom	288	350	945
France	203	133	349
Norway	124	121	209
Japan	99	83	314
Germany	72	80	482
Belgium	50	35	50
Austria	42	28	47
Switzerland	41	38	45
Netherlands	39	39	105
Czechoslovakia	39	38	42
Italy	37(?)	32	70
Australia	36	34	—
Poland	35	29	35
Brazil	18	9	7
Spain	16	15	20
Hungary	10	6	9
Chile	6	6	—
Portugal	3	3	—
U.S.S.R. ^a	250	200	223
Bulgaria	(?)	—	3
Total	7,653	7,084	7,986

^a Exclusive of the Soviet Zone. ^b Includes Estonia, Latvia and Lithuania. ^c Estimate includes the Soviet Zone of Germany.

80 percent of the tonnage available for consumption in 1948 came from these two countries.

Consumption. A combination of very high newspaper circulations and advertising lineage substantially in excess of all previous records contributed to the all-time high estimated consumption of approximately 5,100,000 tons of newsprint in the United States in 1948. This was equivalent to about 70 pounds per capita and represented an increase of nearly 4 pounds over 1947 and 9 pounds above 1946. Although the 3,780,000 ton consumption of newsprint in 1929 was exceeded in a number of years prior to this country's involvement in World War II, the 62 pounds per capita use reached that year represented a peak which was not topped until 1947, which in turn was surpassed by a substantial margin in 1948.

World Production. The following table is the result of a world newsprint survey undertaken in cooperation with the Office of International Trade, United States Department of Commerce. There was an indicated increase of 8 percent in global output in 1947 compared with 1946, while comparison with the 1937-1939 average shows a decrease of 4 percent.

NEW YORK. A middle Atlantic State. Area: 49,576 sq. mi. Population: (July 1, 1948) 14,386,000, compared with (1940 census) 13,479,142. Chief cities: Albany (capital), 130,577 inhabitants in 1940; New York City, 7,451,995. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended March 31, 1947, total revenue amounted to \$925,200,000; total expenditures, \$907,040,000.

Legislation. The annual session of the legislature convened January 7 and adjourned March 13, having appropriated a record-breaking total in excess of \$800 million. Of this, \$451 million is aid to local governments of which New York City was to receive \$237 million. State school aid was increased by about \$30 million, and temporary aid of \$26 million extended in 1947 was made permanent. Approval was given to establishment of a State university, comprising a series of four-year colleges, two medical centers, and other professional and technical schools.

Few State tax changes were made, except for special personal income and cigarette levies to retire veterans' bonus bonds. New York City received authority to increase the nickel subway fare, double its gross receipts business tax, and impose minor new taxes, while municipalities in the State generally benefit from assumption by the State of maintenance costs of arterial highways.

Other enactments increased unemployment and workmen's compensation benefits; expanded State regulatory control over insurance companies; earmarked \$20 million for pay increases to State employees; doubled salaries of State legislators—to \$5,000 a year; and increased municipalities' powers to provide parking facilities and to stimulate construction of veterans' housing cooperatives.

Elections. Dewey carried his home State's 47 electoral votes—Roosevelt's in 1944—by a narrow margin, receiving 2,837,858 votes to Truman's 2,795,081. Wallace received 508,542 votes, about half of his total in the nation. In races for the State's 45 House seats, Democrats won 24 (a gain of 9), Republicans 20, and American Labor Party 1. One successful Democrat, John J. Delaney—7th District, died before the 81st Congress convened. There were no Statewide contests for Senator or State office.

Officers, 1948. Governor, Thomas E. Dewey; Lieut. Governor, Joe R. Hanley; Secretary of State,

Thomas J. Curran; Attorney General, Nathaniel L. Goldstein; State Comptroller, Frank C. Moore.

NEW ZEALAND. A British self-governing dominion in the South Pacific Ocean, consisting chiefly of two large islands about 1,200 miles east of the southeastern coast of Australia. The dominion has jurisdiction over Western Samoa (a United Nations trusteeship), Tokelau (Union Islands), some islands of Oceania, and the Ross Dependency. Capital, Wellington.

Area and Population. Total area, 103,410 square miles. Population in 1948, 1,804,276, including 108,042 Maoris. The European birth rate in 1947 was 26.4 per 1,000. Chief cities in 1947: Auckland, 281,900; Wellington, 183,100; Christchurch, 159,400; Dunedin, 87,700.

Education and Religion. Primary education in New Zealand is free and compulsory. At the end of 1946 the enrolment in the public primary schools was 218,055. There are a large number of schools of various kinds for secondary education. The University of New Zealand includes 4 colleges and two affiliated agricultural colleges. The latest available figures show religious affiliations as follows: Church of England, 40 percent; Presbyterian, 23 percent; Roman Catholic, 13 percent; and the remainder scattered.

Production. In spite of the rapid expansion of industry, New Zealand's economy still rests upon agriculture as the source of the necessary exports. Wool, dairy products, and meats are the most important agricultural products. In 1947 there were 33,000,000 sheep and 1,700,000 dairy cows. The chief industries are closely connected with agriculture. In 1945-46 meat freezing and preserving was first and butter, cheese and condensed milk manufacture second. Coal production in the first quarter of 1948 was at the annual rate of 2,600,000 tons. Because of the inadequacy of the supply coal is imported from the United States and British Commonwealth countries.

Foreign Trade. For a number of years New Zealand has maintained a surplus of exports over imports, but in 1947 the margin was slight: exports were \$417 million and imports \$415 million. Principal exports are wool, butter, and frozen meat. Exports of wool to all countries, July 1, 1947-Mar. 31, 1948: 925,423 bales; to the United States, 42,026 bales. Principal imports are machine products and textiles.

Transportation. In 1947 there were 8,460 miles of government railway lines open for traffic. The number of overseas vessels entering New Zealand ports in the first 4 months of 1948 was 179, as compared with 158 in the first 4 months of 1947. The New Zealand Airways Corporation operates the nationalized internal air services, with 2,417,679 miles flown in the year ended June, 1947.

Finance. The budget for 1947-48 showed a surplus of £NZ1,786,000. The 1948-49 budget called for revenue of £NZ114,867,000, compared with £NZ117,000 collected in 1947-48. For the revaluation of the New Zealand currency in 1948, see *Events* below.

Government. Executive power is vested in a Governor General, appointed by the Crown for 5 years on recommendation of the Dominion Government. Legislative power rests with a Parliament of two chambers: the Legislative Council with an indeterminate number of members (usually over 30), appointed by the Governor General for 7 years, and the House of Representatives of 80 members, including four Maoris, elected every three years by general male and female suffrage. Labor was

in power in 1948 as a result of the 1946 election. Governor General, Lieut. Gen. Sir Bernard Freyberg. Prime Minister, Peter Fraser (Labor).

Events, 1948. The surface prosperity which continued in New Zealand in 1948 failed to satisfy the Government, to whom the rising spiral of wages and prices was disturbing. The greatest weakness in the economy appeared to be the excess of money in comparison with the goods available.

Revaluation of the Pound. A dramatic step was taken on August 19, when the New Zealand pound, which had been set at 125 to 100 British pounds in 1933, was raised in value to full parity with the pound sterling. The announcement was made suddenly by Finance Minister Walter Nash, as a part of his presentation of the budget to the House of Representatives.

In presenting the case, the Finance Minister said that if the income of the country was to be equitably shared, costs must come down immediately. He discussed the most serious aspect of the change, the effect on the New Zealand farmers whose exports of wool, meat, and dairy produce are vital to the maintenance of the country's international position, and promised guaranteed farm prices if necessary.

Nash reminded the House that when the pound was depreciated to 125 in 1933, the purpose was to obtain foreign sales for these producers by offering the foreign purchasers a cheaper pound. The reverse of that advantage for New Zealand farmers was the higher cost of imported raw materials and other commodities, which affected the farmers as well as the manufacturers and the consumers. The Cabinet, he said in an interview later, reached its decision to return to parity on the afternoon of budget day, without prior consultation with London.

Reaction to Parity. The people of New Zealand responded to the sudden news according to their economic interests. Farmers were critical, in spite of Finance Minister Nash's promise that farm income from butter, cheese, meat, tallow, wheat and many other products would not be adversely affected and that the Government was prepared to guarantee prices for still other products. Manufacturers recognized their gains from lower costs of imported raw materials, but expressed anxiety about foreign competition with finished products and uncertainty about how much import controls could shelter them.

The sharpest foreign issue involved was the attitude of Australia, whose currency ratios had corresponded with New Zealand's. Australian Prime Minister Chifley promptly asserted that Australia would not adjust the exchange rate at that stage, for as an exporting country over a wider range of commodities than New Zealand's, a return to parity would create greater problems. Moreover Australia, as a member of the International Monetary Fund—which New Zealand had declined to join—could not make more than a 10 percent variation in the rate of exchange without first obtaining the approval of the Fund.

In Canada, which was familiar with the experience of revaluing the currency, comment was largely limited to estimating the effects on Canadian foreign trade. It was estimated in Ottawa that New Zealand merchandise would now cost Canada \$3 million more, with the offsetting consideration that Canadian products might have a better market in New Zealand.

Criticism in London. Although official London maintained a diplomatic silence, criticism was heard elsewhere. Some comments follow.

Observer, August 22: "Here is a move of monetary policy of first-rate importance made by one member of the family without any reference to Britain, or, as far as is known, to any of the other Dominions. . . . New Zealand, by her secretiveness, may have cut herself off from wise advice, and may later regret her action."

The Times, City [financial] Notes, August 20: "Memories of how Canada and Sweden lived to regret considerable less drastic upward revaluation are too fresh to allow New Zealand's action to be viewed without uneasiness."

There was something deeper than pique in the disturbance expressed by unofficial Britain. New Zealand food supplies were a mainstay of the non-dollar food imports; and although bulk contracts had recently been negotiated with New Zealand, pressure for renegotiation of contracts was foreseen on the part of both New Zealand farmers and their Government.

Restriction of Imports. The 1949 import licensing schedule was announced on October 19. Import licenses from dollar currency areas were limited to absolutely essential commodities not available from sterling sources, and purchases from the United States and other dollar areas were put on the basis of individual applications. In this connection Finance Minister Nash expressed New Zealand's intention of living within its income from exports.

In connection with the control of exports and imports, New Zealand concluded agreements with specific countries. As a result of a conference in Canberra in June, New Zealand and Australia agreed to coordinate their economic policies so that they would become less dependent on imports from North America and Europe. New Zealand was one of the five British Commonwealth countries to enter into the trade agreement with Japan announced after the conclusion of the Conference of Commonwealth Prime Ministers in London in October. New Zealand agreed to sell Japan goods to the value of \$2,500,000 until June 30, 1949, and to accept imports to the same amount. Wool was scheduled to have a large place in the sales to Japan.

Parliamentary Session. In opening Parliament on June 22 Governor General Sir Bernard Freyberg expressed the hope that the Prime Ministers of the British Commonwealth would soon meet to discuss Western Union and other urgent matters of common concern. When this meeting took place in London October 11-22 Prime Minister Peter Fraser was present. Fraser took an active part in the conferences with Eire relating to the latter's severance of ties with the Commonwealth.

Early in the session (June 30) Parliament ratified the Geneva Agreement on Tariffs and Trade, thus putting into effect the tariff concessions granted to the United States and others at the Geneva Conference of 1947. Sir Bernard Freyberg and Lady Freyberg began a month's visit to Australia in November. New Zealand expanded its plan of granting assisted passages to single British immigrants early in the year, when there were more than 20,000 British applicants waiting for passage. In the autumn homes were offered for 1,000 refugee widows, orphans and old people.

—ALZADA COMSTOCK

NICARAGUA. A republic of Central America. The western highlands slope gradually toward the west and end in the Caribbean lowlands. There are other lowland regions that cross the country diagonally. The Caribbean littoral is wet and humid. Dry winters prevail in the northwest.

Area and Population. Area, 57,143 square miles. Population, 1,140,000 (1947), of which about 68 percent are mestizos, 17 percent of European descent, 10 percent Negroes, and 5 percent Indians. Principal cities: Managua (capital), León, Matagalpa, and Granada.

Education and Religion. The constitution guarantees freedom of worship. Roman Catholicism is the predominant religion. Spanish is the official language. Of the total population over 7 years of age, 62.96 percent are illiterate. During the school year of 1945-46, there were 1,050 elementary and secondary schools, with an enrollment of 84,651 students. There are three universities in Nicaragua, that in 1946 had a combined enrollment of 665 students.

Production. The country's economy depends on agriculture, stock-raising, and mining of gold and silver. Leading agricultural products in 1946 were corn, 58,352,000 pounds; rice, 25,636,000 pounds; sugar, 25 million pounds; coffee, 225,000 bags; and beans, 118,000 bushels. Other agricultural products included sesame, cotton, tobacco, peanuts, and bananas. The cattle industry produced enough for domestic consumption and a small amount for export, which in 1946 came to 41,000 head of cattle and 159,000 kilos of hides and skins. Gold exports the same year were valued at 7,117,000 gold córdobas (córdoba = U.S.\$0.20; 1939 = November, 1948). The vast forests of the eastern regions produce timber for domestic use and some for export.

Foreign Trade. In 1947, total exports were valued at \$13.3 million and imports at \$20.8 million. During the first 8 months of 1948, Nicaragua's exports were valued at \$16.5 million; imports, \$14.4 million.

Chief buyers from Nicaragua are the U.S., Costa Rica, Panama, and Great Britain. Principal sources of imports are the U.S., Mexico, Costa Rica, and the Netherlands West Indies.

Transportation. The country has 381 kilometers of railroad and 3,151 miles of highway of all types. Most recent statistics indicate 1,484 motor vehicles, 6,000 radios, and 1,510 telephones.

Finance. In the budget for the fiscal year 1946-47, revenue was estimated at 83,077,031 córdobas, and expenditure at 82,697,268 córdobas. Currency in circulation in July of 1948 was 49.1 million córdobas. Bank deposits (October, 1948) were \$3.2 million córdobas, and gold reserves \$3,520,000.

Government. Under the constitution of 1939, Nicaragua is a centralized republic, divided into fourteen departments and one National District. Executive power is vested in a President, elected for a six-year term. Legislative power is exercised by a bicameral Congress composed of a Chamber of Deputies and a Chamber of Senators. In August, 1947, a Constituent Assembly elected Dr. Victor Manuel Román to the Presidency. He is an uncle of Anastasio Somoza, Nicaragua's "strong man."

Events, 1948. Although no change in the government took place, the year was one of turbulent political activity. On the domestic front, action was centered on opposition to the Román-Somoza administration, and beyond Nicaraguan borders, on efforts by exiles to overthrow the regime by force.

Protests and Confusion. Toward the end of April, the press started a campaign against government censorship. Various journals agreed to suspend publication, and the government, in reprisal, cut off the light and telephone service in the building occupied by newspaper *La Flecha*. In July, the administration made a move toward conciliation, with

a conference in the Argentine Embassy, at which President Román and General Somoza met with leaders of the Liberal Party. The government press said this would pave the way to better political relations for the country, but the Liberal Party denied rumors of an agreement with the government, as the circumstances motivating their opposition had not altered.

Cabinet Re-shuffling and Rebellion. At the end of August, General Somoza, Minister of War and Head of the National Guard, offered his resignation to President Román, and his example was followed by other members of the Cabinet. The purpose was ostensibly to open the door to a Cabinet reorganization that might permit the appointment of members of the Liberal Party. Since the resignation was only a gesture and not meant to be accepted, Somoza continued to be "the power behind the throne." A few days later, the government press reported a rebel movement near the borders of Honduras, led by Gen. Carlos Castro of the Liberal Party. The government sent troops of the National Guard under Maj. Anastasio Somoza, son of the Caudillo, and the rebellion was crushed.

Inter-American Problems. During the year, the government was much concerned with the activities of the so-called Caribbean Legion, a military force said to be formed by exiles from Nicaragua, Honduras, and Santo Domingo, which was planning to overthrow the governments of those countries. General Somoza publicly denounced the Legion and the aid given them, especially by Guatemala, Cuba, and Costa Rica. These nations denied the charges.

On December 10, Costa Rica was invaded by a rebel group headed by Rafael Calderón Guardia, one of the candidates in the recent presidential elections of Costa Rica (see COSTA RICA). The government of Costa Rica stated that the invasion was organized in Nicaragua and had received Somoza's support. (It was rumored that the invasion was fostered by Somoza in order to prevent Costa Rica's being used as a base for Legion activities against Nicaragua.) The case was referred to the Organization of American States under the Rio de Janeiro Treaty, and a Commission of Inquiry was appointed to investigate the aggression. At the end of the year, the Commission was functioning in Costa Rica.

The Bogotá Conference. Nicaragua attended the Ninth Inter-American Conference of American States held at Bogotá in April (see PAN AMERICAN ACTIVITIES), and became signatory to the Charter of the Americas.

- MICHAEL JORDAN

NICKEL. Shipments of Canadian nickel reached a peacetime peak in 1948 to meet heavy worldwide demand for alloying in steels, irons and nonferrous metals, and for electroplating. The needs of the rearmament program and U.S. stockpiling made it necessary for Canadian producers to limit sales in many cases. Production was restricted by a power shortage in Ontario, the major world producing area, due to inadequate rainfall. Canadian production in the first 10 months was 105,375 net tons (year 1947: 117,781 tons). Production in New Caledonia is estimated to be below the 1947 rate. Cuban production has been discontinued. In July the International Nickel Company advanced the price by 6½ cents per lb., making electrolytic nickel to contract customers 40 cents per lb., f.o.b. Port Colborne, Ont. The advance was attributed to higher costs, including recovery from lower grade ores.

Nickel oxide sinter, a new product for alloying

of steels, is now in production for sale at 36¼ cents per lb. of nickel contained, f.o.b. Copper Cliff, Ont. Total consumption of nickel by domestic industry in 1947 was 80,757 tons, of which 41 percent went to the steel industry. Production by the U.S.S.R. at Petsamo is not reported. However Russia's payments to the International Nickel Company for its interest in the former Finnish mine are being made, amounting to more than \$12 million by the end of 1948. —JOHN ANTHONY

NIGERIA. A British colony and protectorate in West Africa, including for administrative purposes the United Nations Trust Territory (since Dec. 13, 1946) of British Cameroons. Total area (including Cameroons): 372,674 square miles. Population (1946): 22,980,000. Chief towns (1945): Ibadan 327,284, Lagos (capital) 174,200, Kano 89,812, Ogbomosho 81,740, Oyo 79,340, Iwo 74,764, Oshogbo 59,352. Primitive areas have in general retained ancestral religions, but Christianity and Islam have many adherents. Education has made slow progress, except in the Christian areas. Only about one-seventh of the children of school age are in primary or secondary schools.

Production and Trade. The products of Nigeria include agricultural and forest products, gold, tin, and a variety of other minerals. Palm kernels, palm oil, cocoa (1946 export, 100,186 tons), groundnuts (1946 export, 285,668 tons), hides and skins are important exports. Cotton piece goods are usually the leading import, but iron and steel manufactures are also required in volume. In 1947 imports were valued at £32,466,000; exports £37,155,000.

Government. Budget (1946-47): revenue £14,955,750; expenditure £14,426,830; public debt £22,064,599. The administration is headed by a governor, aided by an executive council and a legislative council of not more than 30 official members and 21 elected or appointed members to represent business and native interests. The legislative council enacts laws for the whole of Nigeria. There is a House of Assembly for the northern provinces, the western provinces, and the eastern provinces. Governor: Sir John Stewart Macpherson.

NOBEL PRIZES. The will of Alfred B. Nobel provided for five annual prizes to be awarded to persons who, in different fields of activity, had made the greatest contributions toward the progress of the world and the welfare of humanity. Prizes are divided equally among recipients for distinguished work in physics, chemistry, physiology or medicine, literature, and in the promotion of world peace. The awards in physics and chemistry are made by the Royal (Swedish) Academy of Sciences, that in physiology or medicine by the Caroline Institute in Stockholm, that in literature by the Swedish Academy, and that in peace by a committee of five elected by the Norwegian Storting. The distribution of the Nobel Prizes takes place every year on December 10, the anniversary of the death of the founder. Awards of the 1948 prizes (each amounting to 159,773 Swedish crowns; about \$44,381) were as follows:

Medicine and Physiology. The prize was awarded to Professor Paul Herman Mueller (born 1899) of Switzerland, director at the scientific laboratories of the firm of Geigy at Basle, Switzerland; "for his discovery of the strong effect of DDT as a compact poison against a number of arthropodes."

Peace. The prize was allocated with one-third to the main fund of the Foundation and with two-thirds to the special fund for this group of prizes.

Physics. The prize was awarded to Professor Pat-

rick M. S. Blackett (born 1897), professor at the University of Manchester, England; "for his development of the Wilson cloud chamber method and his discoveries in connection therewith in the domain of nuclear physics and cosmic radiation."

Chemistry. The prize for 1948 was awarded to Professor Arne Tiselius (born 1902) of Sweden, professor of biochemistry at the University of Uppsala, Sweden; "for his electrophoretic and adsorption analytical researches, especially for his discoveries concerning the complex nature of the serum proteins."

Literature. The prize for 1948 was awarded to Dr. Thomas Stearns Eliot (born 1888) of London, England; "for his remarkable achievement as a pioneer in modern poetry."

NORFOLK ISLAND. An Australian island territory in the south Pacific, 930 miles northeast of Sydney. Area: 13 square miles. Population (1944): 733. The cultivation of citrus fruits, bananas, and coffee is the chief occupation of the people. In 1945-46 imports were valued at £32,402 and exports at £9,024. An administrator, assisted by an advisory council, governs the territory.

NORTH AMERICA. The continent of North America, excluding Mexico and Central America, but including Greenland, Newfoundland, and smaller adjacent islands, has an area of about 7,591,498 square miles (19,662,000 square kilometers) and a population estimated at 143,178,000 on Jan. 1, 1940. The combined area of Mexico, Central America, and the West Indian islands is about 1,073,080 square miles and the population about 40,870,000.

NORTH CAROLINA. A south Atlantic State. Area: 52,426 sq. mi. Population: (July 1, 1948) 3,715,000, compared with (1940 census) 3,571,623. Chief cities: Raleigh (capital), 46,897 inhabitants in 1940; Charlotte, 100,899. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$230,317,000; total expenditure, \$195,341,000.

Elections. Normally Democratic North Carolina gave its 14 electoral votes to Truman whose popular majority over Dewey, Thurmond, Wallace, and others exceeded 100,000. Democrats won all other races: J. Melville Broughton was elected Senator; W. Kerr Scott was elected Governor; and Democrats retained all 12 House seats. State officers elected included: Lieutenant Governor—H. P. Taylor; Secretary of State—Thad Eure; Attorney General—Harry McMullan; Auditor—Henry L. Bridges; Treasurer—Brandon P. Hodges; Superintendent of Public Instruction—Clyde A. Erwin.

Officers, 1948. Governor, R. Gregg Cherry; Lieut. Governor, L. Y. Ballentine; Secretary of State, Thad Eure; Attorney General, Harry McMullan; State Treasurer, Charles M. Johnson; State Auditor, Henry L. Bridges.

NORTH DAKOTA. A west north central State. Area: 70,837 sq. mi. Population: (July 1, 1948) 560,000 compared with (1940 census) 641,935. Chief cities: Bismarck (capital), 15,496 inhabitants in 1940; Fargo, 32,580. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$37,109,000; total expenditure, \$32,593,000.

Elections. Dewey received a popular majority over

Truman, Wallace, and others—including scattered votes for Thurmond—and won the 4 electoral votes. There was no Senatorial race. Republicans retained the 2 House seats. Incumbent Republican Governor Fred C. Aundahl was reelected. Other State officials elected included: Lieutenant Governor—C. P. Dahl; Secretary of State—Thomas Hall; Attorney General—Wallace E. Warner; Auditor—Berta E. Baker; Treasurer—Albert Jacobson. A popular referendum in June approved a bonus to veterans.

Officers, 1948. Governor, Fred C. Aundahl; Lieut. Governor, C. P. Dahl; Secretary of State, Thomas Hall; Attorney General, Nels C. Johnson; State Treasurer, H. W. Swenson; State Auditor, Berta E. Baker.

NORTHWEST TERRITORIES. The northern areas of Canada, extending north from the provinces and Yukon to the North Pole. Area: 1,304,903 square miles (including 51,165 sq. mi. of fresh water). It is divided, for administrative purposes, into the districts of Franklin (549,253 sq. mi.), Keewatin (228,160 sq. mi.) and Mackenzie (527,490 sq. mi.). Population (1941 census): 12,028 (1948 est., 16,000).

Production, etc. Mining, fur trapping, and reindeer herding are the principal occupations of the inhabitants. The estimated value of mineral production in 1947 was \$2,720,988, the value of gold amounting to \$2,188,095. Petroleum, silver, and natural gas are also produced, as are copper, lead, and tungsten ore. There were 488,039 pelts taken in the season 1946-47, valued at \$1,658,754. Marketed value of fish was \$558,264. In the Mackenzie Valley are some 593 acres of arable land possible of economic exploitation, in spite of high freighting and other costs. Finance (1946-47): revenue, \$976,103; expenditure, \$6,742,362.

Government. A Territorial Council, consisting of a commissioner, deputy commissioner, and 5 councillors appointed by the Governor General in Council, controls the administration of the Territories. The seat of government is at Ottawa, Ontario. Commissioner, H. L. Keenleyside. See CANADA.

NORWAY. A European kingdom occupying the western and northern part of the Scandinavian peninsula. Capital, Oslo. King, Haakon VII, who was born in 1872 and was elected to the throne by the Storting (Parliament) Nov. 18, 1905. Premier, Einar Gerhardsen. Norway holds sovereignty over Svalbard (Spitzbergen and adjacent islands) in the Arctic Sea, 240 miles distant from the Norwegian coast (see SVALBARD). Norway also asserts sovereignty over uninhabited Jan Mayen Island in the Arctic Sea, and certain uninhabited areas in the Antarctic.

Area and Population. Covering an area of 124,556 square miles (land area, 119,148 sq. mi.), Norway proper had 3,172,000 inhabitants on Jan. 1, 1948, by official estimate. Vital statistics (rate per 1,000 inhabitants) in 1947: births, 21.7; deaths, 9.4; marriages, 9.2. Estimated populations of chief cities in 1947: Oslo, 300,000; Bergen, 105,000; Trondheim, 55,000; Stavanger, 47,000.

Education and Religion. The state religion is evangelical Lutheran. All faiths are tolerated but Jesuits are barred from the country. Education is compulsory; illiteracy is low. The Norwegian language has two idioms, both of which are used officially.

Production. Agriculture, forestry, mining, industry, fishing, and whaling are the principal occupations. Food production in 1947 was only 83 per-

cent of the average, due to the Europe-wide drought. Cereal crops totaled 269,400 tons against 378,000 tons in 1946. The potato harvest was 918,500 tons; hay, 2,488,600 tons. Whale oil production in the 1947-48 Antarctic season was 935,902 barrels (over 50 percent of the international total), against 903,661 for the 1946-47 season.

Foreign Trade. In terms of money, foreign trade figures in 1947 reached the highest points in Norwegian history. Imports were valued at 3,800 million kroner; exports at 1,900 million. Total imports for 1948 were valued at 3,708,500,000 kroner; total exports 2,062,500,000.

Finance. The budget presented to Parliament on Jan. 19, 1948, for the 1948-49 fiscal year, totals 2,490 million kroner, as compared with 2,203 million for the 1947-48 period.

Transportation. Virtually all of Norway's 2,600 miles of railway are state owned and operated. The railway system is still suffering from the effects of the German occupation and the need for replacements. Of the 27,000 miles of highways and roads, less than 2 percent are surfaced. Coastal waterways are of prime importance and are highly developed. About 10 percent of the country's merchant marine is engaged in coast-wise shipping. Air service to various parts of Norway; daily or weekly flights to continental points; and regular service to the United States and South America is furnished by Det Norske Luftfartsselskap (DNL).

Government. Under the constitution of 1814, as subsequently amended, executive power is vested in the King, acting through a cabinet responsible to the Storting. The Storting consists of 150 members elected for four years by universal suffrage. It divides itself into two sections of 88 and 112, called the Lagting and Odelsting, respectively. In the elections for the Storting held on Oct. 8, 1945, the following parties were elected: Labor, 76; Conservative, 25; Liberal, 20; Communist, 11; Agrarian, 10; and Christian Popular, 8.

Events, 1948. "Tension among the great powers has retarded reconstruction in Norway, and progress during the coming year will be governed largely by developments abroad," Prime Minister Gerhardsen predicted in his New Year address to Parliament. He went on to say that "developments abroad have resulted in greater economic stress than was originally envisioned. Price rises have struck hard at our foreign exchange reserves, and European exchange shortages are retarding our recovery." This picture did not change materially during the year.

On the domestic political scene, and on the labor front, all was quiet in Norway in 1948. The Socialist Government headed by Gerhardsen maintained itself in office for the third straight year. A minor Cabinet reshuffle took place in July, following the death of one minister and the resignation of another.

There were many rumors of Soviet pressure, with some foundation in fact. On March 17, Foreign Minister Halvard M. Lange confirmed that objections had been raised by "outside sources" (meaning Russia) to the inter-Scandinavian economic conference scheduled to be held at Copenhagen early in April. "It was erroneously reported this conference would discuss military cooperation," he added. The Moscow newspaper *Izvestia* on March 27 sharply criticized the Oslo Government for allegedly "selling out Norway to the United States." The paper charged that Norwegian armaments were being standardized with American models and that plans were afoot to lease Norwegian territory (Svalbard and Jan Mayen) for

American and British bases. This was categorically denied by Defense Minister Jens Hauge.

Norway's position in the East-West conflict was clearly defined in an address by Foreign Minister Lange on April 19 before the Oslo Military Society: "There can not be the least doubt that we are part of western Europe geographically, economically, and culturally and that we are and will remain a western European democracy." He added, however, that "this knowledge must not prevent Norway from maintaining good relations and expanding economic ties with the U.S.S.R. and other eastern European countries."

Spurred on by the events in Czechoslovakia, the Storting on March 16 voted an extraordinary appropriation of 100 million kroner (\$20 million) for national defense. In another move toward strengthening security the House, on April 9, set up a special committee for Defense and Foreign Affairs questions from which the Communists were excluded. Generally, Communist influence, never very strong in Norway, was reduced to insignificant proportions as public opinion turned sharply against the followers of Moscow.

On June 4, a policy clash between the Defense Ministry and the Army Command was revealed as the Cabinet voted to remove Lt. Gen. Olav Helset from his post as commander in chief and demoted him to major general. On the same day, Foreign Minister Lange in a speech at Malmö, Sweden, indicated that Norway would welcome military co-operation with Denmark and Sweden. This and other Norwegian feelings brought a noncommittal reaction from Stockholm where the view prevailed that Norway was leaning too strongly to the West and that Sweden's position was too exposed to go along. Nevertheless both Sweden and Denmark agreed to consult with Norway on a coordination of Scandinavian defense measures and a conference on this subject was held at Oslo on October 15-16. The conference was attended by the Ministers of Defense of the three powers as well as by numerous military experts.

Toward the end of the year, it was apparent that Norway would not turn down an invitation to join in the North Atlantic Pact proposed by the Western European Union and the United States. "We must join openly, honestly, and fearlessly in the international cooperation aimed at preserving those freedoms and rights which are in themselves the foundation for our existence as a free people," wrote the Government organ *Arbeiderbladet* of Oslo on November 10, concluding that "hence we must regard with sympathy and understanding the establishment of a North Atlantic Pact."

Economic Affairs. Norway's economic situation in 1948 strongly reflected world trends. The universal dollar shortage and the general rise in prices imposed adoption of an "austerity program" on the British model. Drastic import restrictions improved the foreign trade balance but hit the consumers hard, especially in clothing, textiles, and automobiles. Industrial production in 1948 was maintained at generally high levels, with little unemployment. The harvest was considerably better than in 1947, as were the yields of the fishing industry.

Norway's adherence to the Paris accord on the Marshall Plan was approved by a 108 to 11 vote of the Storting on July 3. Immediately afterwards the agreement was signed by Foreign Minister Lange and U.S. Ambassador Charles U. Bay.

—JOACHIM JOESTEN

748 square miles are land area and 325 square miles fresh water. Population (census 1941): 577,962 (est. pop. 1948), 635,000. Religious affiliations include (1941): Roman Catholic, 188,944; United Church, 124,301; Anglican, 103,393; Baptist, 89,272; Presbyterian, 47,415. In 1946 there were 17,914 live births; 6,046 deaths; 6,549 marriages. Education (1945-46): 138,332 students enrolled in schools and colleges. Chief cities: Halifax (capital), 70,488 inhabitants in 1941; Sydney, 28,305; Glace Bay, 25,147.

Production. The gross value of agricultural output in 1947 was \$42.5 million. Value of field crops in 1947 totaled \$21,579,000 from 544,000 acres. Chief field crops (1947): oats 2,250,000 bu. (\$2,048,000); potatoes 1,828,000 cwt. (\$4,186,000); field roots 2,010,000 cwt. (\$2,510,000). Livestock (June 1, 1947): 203,100 cattle (\$15,606,000); 82,800 horses (\$5,024,000); 59,900 swine (\$1,630,000); 138,000 sheep (\$1,299,000); 2,681,900 poultry (\$3,361,000). In 1946 there were 350 fur farms. Value of fur pelt production in the season 1946-47 was \$716,009. Fisheries production in 1946 reached a marketed value of \$34,270,761; chief commercial fishes caught were cod, lobsters, haddock, herring, swordfish, pollock, and mackerel. Creamery butter produced in 1947 amounted to 6,617,000 lb. valued at \$3,487,000; estimated total farm value of poultry meat and eggs was \$7,041,000. The value of fruit crops (1947) was placed at \$2,779,000. The value of lumber sawn in 1946 amounted to \$14,519,554 from 617 sawmills in operation.

Government. Budget estimates for 1947-48: net combined revenue \$30,119,430; net combined expenditure \$27,473,310. Total direct and indirect liabilities (less sinking funds) \$105,779,633 on Nov. 30, 1946. The executive authority is vested in a lieutenant governor who is advised by a ministry of the House of Assembly, the latter comprising 30 members elected for a five-year term by popular vote (28 Liberals, and 2 Cooperative Commonwealth Federationists were elected at the provincial general election of Oct. 23, 1945). Ten members (appointed for life) in the Senate and 12 members in the House of Commons represent Nova Scotia in the Dominion Parliament at Ottawa. Lieutenant Governor, J. A. D. McCurdy, M.B.E. (appointed Aug. 12, 1947); Premier, Angus L. Macdonald (Liberal; appointed Sept. 8, 1945). See CANADA.

NUCLEAR ENERGY. Progress in 1948 in the field of nuclear energy or, in popular terms, atomic energy, began to show tangible results in the use of radioisotopes in chemical, biological, medical, and other investigations leading to new knowledge of natural processes and some applications. The predicted ability of radioisotopes to implement the solving of many kinds of problems which are unsolvable by other techniques was amply demonstrated. The production of atomic weapons continued, and the Atomic Energy Commission announced that tests at Eniwetok of atomic weapons of improved design were successful. While work on the development of atomic power equipment continued and expanded, the fact that many years of intensive work must precede its commercial application became more generally recognized and accepted.

Much of the emphasis in atomic energy continued on the construction of facilities for research and development and the training and assembling of technical manpower. Characteristics peculiar to experimental work in atomic energy, compared to work in other fields, require extensive and special

NOVA SCOTIA. An eastern maritime province of Canada. Area: 21,068 square miles, of which 20,-

facilities, and make the conduct of experimental work most time-consuming. Extension of fundamental physical measurements beyond their present scope requires tremendous "atom smashers," each now higher energy unit requiring several years of design and construction (See PHYSICS). Chemical work with radioactive materials in greater than tracer amounts takes elaborate laboratory facilities to protect workers from injurious radiation. Experiments must be handled by remote control with operators separated from equipment by thick shields. Data on material stability against radiation within a nuclear reactor require special packaging of the sample, then exposure in a nuclear reactor (there are only a few in the country) and finally ingenious devices for making measurements after exposure because the sample will itself be radioactive. These examples are indicative of why so much effort must continue on the more preparatory phases of the atomic energy program, and why progress may appear slow to those unfamiliar with the special characteristics of the field.

Atomic Power. For a careful assessment of the foreseeable technical and economic problems which we now know must be solved before atomic power can be a factor in the world's power economy, we have the report to the Atomic Energy Commission by its General Advisory Committee issued during 1948 (in the *Fourth Semiannual Report*) which concludes, "We do not see how it would be possible under the most favorable circumstances to have any considerable portion of the present power supply of the world replaced by nuclear fuel before the expiration of 20 years." Some authorities feel that even this statement is optimistic in view of the uncertainties of international politics and unknown economic conditions.

Regardless of what dates are forecast for commercial application of atomic power on any substantial scale, the following observations appear reasonable:

1. Technical problems set an irreducible minimum time and although individual estimates vary, the order of magnitude suggested by the General Advisory Committee to the AEC seems generally accepted.

2. If atomic power does become widely used, its growth will be gradual and it will supplement rather than supplant power from other fuels.

3. For atomic power to become a major factor in the world's power economy, it must become sufficiently competitive to have a strong economic incentive, and we now know less about the future cost of atomic fuels and power plants than about any technical aspect.

4. There are no known technical obstacles which appear to be insurmountable.

5. Atomic power plants will probably be applied first where some strong incentive other than economy exists. An example is the propulsion of naval ships where the possibility of long cruising range without refueling provides a major incentive.

Atomic Fuel. The close relationship between the production of fuel and power became more apparent to the public in 1948 with the announcement that the "breeding" of new fissionable material appeared to be theoretically possible. In a controlled nuclear reaction, there are neutrons in excess of those required just to sustain the reaction and release power. Some of these excess neutrons are used now to produce plutonium, a synthetic atomic fuel, from uranium in laboratory reactors. If a reactor can be designed so that the losses of excess neutrons by unprofitable absorption are very low and the rest are used to produce new fission-

able material, it may be possible to make more new fissionable material than that which is burned. Such a process is called "breeding."

The profound effect which this might have on the future of atomic power can be visualized when it is realized that a major success of "breeding" in atomic power plants might make relatively plentiful Uranium 238 and Thorium the sources of fuel in place of relatively rare Uranium 235, the only known natural fissionable isotope. Such possibilities have yet to be demonstrated. For the "breeding" process to have great economic importance, both the amount of the margin produced over equal replacement of that burned, and the rate of burning up the fuel invested in the reactor must be large for the net gain in a given time to be significant.

Radioisotopes. Progress in 1948 in the manufacture and use of radioisotopes was reviewed in the above mentioned report of the Atomic Energy Commission. The following excerpts suggest the great scope and variety of useful applications which are already in progress.

"Using tracer isotopes, the scientist and engineer can observe atoms as they take part in basic organic and inorganic reactions, much as though the atoms were visibly tagged or labeled. For the first time, it becomes possible to follow in intimate detail . . . such processes as photosynthesis, metabolism, and the chemistry of hydrocarbons . . .

"The most surprising fact revealed has been the extreme rapidity with which life processes take place. By 'tagging' salt (sodium chloride) with sodium 24 and injecting it into the human body, investigators have found that salt is diffused through the walls of the veins, transported to the sweat glands, converted into sweat, and carried to the surface of the body, all in less than one minute's time.

"In hospitals today, physicians are using radioisotopes to diagnose various circulatory disorders, to locate malignant tumors, to measure how sick thyroid glands are functioning, to find out how much iron the red blood cells of anemic patients can take up, and to diagnose various unhealthy internal body changes that they could not identify without the radioactive tracers to follow and report on the movement of materials in the body.

"Using radioisotopes, plant scientists have been able to follow through the soil, into the rootlets, and to their final disposition in the plant, minerals such as zinc, copper, and manganese, all of which are available to the plants in amounts of less than an ounce per acre.

"Already, in field experiments conducted by the U.S. Department of Agriculture and State agricultural experiment stations and by the fertilizer industry in all parts of the nation, radioisotopes are answering very specific questions: such questions as where, when, and how plant foods are most effectively applied to different crops; what forms of fertilizer return the most in production; when and how the plant utilizes them; and how much expensive plant food is likely to go unused in today's fertilizing methods.

"The powerful signals emitted by radioisotopes have been used to follow and measure a variety of industrially important substances otherwise untraceable, from the impurities in a batch of molten steel to the invisible coating on a wisp of thread. Manufacturers of steel, machinery, rubber, gasoline, oil, plastics, rayon, chemicals, drugs, and a rapidly growing list of other products are looking to these researches to bring better and more economical production.

"The entire field of metallurgy is certain to be greatly influenced by tracer investigations already under way on the structure, manufacture, alloying, durability, corrosion, and friction of metals."

—B. R. PRENTICE

NYASALAND. A protectorate of Great Britain, in central Africa. Area: 37,374 square miles. Population (1946): 2,230,500, including 2,400 Europeans and 3,100 Asiatics. Chief towns: Zomba (capital), Blantyre, Lilongwe, Mlanje, Salima, and Fort Johnston. The chief industry of the people is agriculture. Among the important products are tobacco, tea, cotton, pulse, groundnuts, and tung oil. Imports include cotton goods, vehicles, manufactures of wood, and timber. Foreign trade: imports £2,050,176; exports £2,364,970. Budget estimates (1947): revenue £1,077,865; expenditure £981,441. Nyasaland is administered by a governor, aided by executive and legislative councils. Governor: Geoffrey Colby.

OATS. The 1948 production of oats in the United States reached a total of 1,491,752,000 bushels, according to the estimate (as of December, 1948) of the U.S. Dept. of Agriculture. This compares with the 1947 output of 1,199,422,000 bu. and the 1937-46 average of 1,231,814,000 bu. Yields of the chief producing States (in bushels) were: Iowa 266,445,000; Minnesota 206,338,000; Illinois 182,078,000; Wisconsin 126,148,000; South Dakota 104,252,000; Nebraska 72,744,000; North Dakota 62,132,000; Indiana 59,469,000; Michigan 56,672,000; Ohio 54,090,000; Missouri 48,592,000; Pennsylvania 29,146,000; New York 28,320,000; and Kansas 26,312,000.

World Oat Production. According to the December, 1948, report of the Office of Foreign Agricultural Relations, U.S. Department of Agriculture, the 1948 world output of oats was estimated to total 4,335 million bushels, compared with 1,195 million bushels in 1947. The total area sown was estimated at 136.29 million acres for 1948. Yields of the chief producing countries for 1948 were (in bushels): United States 1,492,957,000, U.S.S.R. (Europe and Asia) 820,000,000 (in 1947), Canada 357,703,000, France 235,000,000, Great Britain 202,930,000, Denmark 59,938,000, China 55,883,000, Eire 54,000,000, Sweden 53,785,000, Argentina 44,000,000, Finland 42,300,000, Spain 38,000,000, Belgium 36,500,000, Italy 36,000,000, Australia 27,500,000, Netherlands 21,700,000, Turkey 21,000,000, Austria 20,000,000.

In the foregoing statistics of production those for Northern Hemisphere countries are based on revised estimates, those on Southern Hemisphere countries are based on preliminary forecasts. The figures on the total output of oats in Germany were not available.

OHIO. An east north central State. Area: 41,122 sq. mi. Population: (July 1, 1948) 7,799,000, compared with (1940 census) 6,907,612. Chief cities: Columbus (capital), 306,087 inhabitants in 1940; Cleveland, 878,336. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended Dec. 31, 1946, total revenue amounted to \$425,027,000; total expenditure, \$372,305,000.

Elections. The 25 electoral votes, which went in 1944 to Dewey by about 11,000 votes, were won by Truman by a small margin. Republican incumbent Governor Thomas J. Herbert lost his race for reelection by the amount he defeated in 1946, former

Governor Frank J. Lausche. There was no Senate race. In contests for the 23 House seats, Democrats won 12 for a gain of 8. State officers elected included: Lieutenant Governor—George D. Nye; Secretary of State—Charles J. Sweeney; Attorney General—Herbert S. Duffy; Auditor—Joseph T. Ferguson; Treasurer—Don H. Ebright.

Officers, 1948. Governor, Thomas J. Herbert; Lieut. Governor, Paul M. Herbert; Secretary of State, Edward J. Hummel; Attorney General, Hugh S. Jenkins; State Treasurer, Don H. Ebright; State Auditor, Joseph T. Ferguson.

OIL AND GAS DIVISION. Under direction of the Secretary of the Interior the Division is authorized to coordinate and unify policy and administration with respect to the functions and activities relative to oil and gas carried on by the several departments and agencies of the Federal Government; to serve as the channel of communication between the Federal Government and the petroleum industry; to serve as liaison agency of the Federal Government in its relations with the appropriate State oil and gas bodies; and to review technological developments in the field of petroleum and synthetic hydrocarbon fuels and coordinate Federal policy with respect thereto. It also assists the Secretary of the Interior in administering the Connally law, which prohibits the shipment in interstate and foreign commerce of petroleum or its products produced in excess of the amount permitted by State law.

OKLAHOMA. A west south central State. Area: 70,057 sq. mi. Population: (July 1, 1948) 2,362,000, compared with (1940 census) 2,336,434. Chief city: Oklahoma City (capital), 204,424 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$179,618,000; total expenditure, \$161,729,000.

Elections. Truman's plurality of about 200,000 votes over Dewey was about double Roosevelt's in 1944, and won the Democratic candidate the 10 electoral votes. In the Senatorial contest, former Governor Robert S. Kerr, Democrat, beat Republican Ross Ritzley. In House contests, Democrats won all 8, picking up 2 formerly held by Republicans. There were no Statewide races for State office.

Officers, 1948. Governor, Roy J. Turner; Lieut. Governor, James E. Berry; Secretary of State, Wilburn Cartwright; Attorney General, Mac Q. Williamson; State Treasurer, John D. Conner; State Auditor, A. S. J. Shaw. Chief Justice of Oklahoma Supreme Court, Thurman S. Hurst.

OLYMPIC GAMES. Renewal of these international contests, last held at Berlin in 1936, provided the most colorful and successful sports show of the year. This XIV Olympiad, in which 59 nations competed, resulted in a sweeping triumph for United States athletes and the finest display of the spirit in which the games were conceived since their revival in 1896.

A gathering of 82,000 filled Wembley Stadium in England to hear King George in the opening ceremony on July 29 and from then on through August 14 the pageant rolled from one set of impressive figures to another. An estimated 1.5 million persons attended the 134 events in 17 sports in which more than 5,000 men and women competed. Receipts ran to approximately \$2 million, well above any previous total for this great athletic meet.

Exceeding the brilliant exploits in various stadia was the sportsmanship of the athletes and of the crowds. Except for a bit of argument in the progress of the boxing, which resulted in the removal of a succession of judges, and except for the temporary disqualification of the winning American 400-meter relay team, harmony and good-will marked the games.

Disqualification of the United States in the relay, removed three days later when movies revealed that passing of the baton had been done legally, became an occasion for the finest show of Olympic spirit. England, second in the race, had been moved up to first and was overjoyed that the home forces finally had gained their only track victory. But when pictures revealed that the judges had erred and an injustice had been done the Americans, the British relinquished their gold medals as the crowd cheered the invaders.

Gaining 38 first places—11 in men's track and field—for a total of 547.5 points in the unofficial team scoring table, the United States squad finished far in front. American athletes registered an unprecedented sweep in men's diving and swimming, with Japan barred from the games, and scored the most triumphs in women's swimming and diving despite stern opposition from Dutch and Danish maidens. The University of California eight won in rowing, as did the University of Washington's four with coxswain. John B. Kelly Jr., counted as an almost certain victor, lost in the semifinals of the single sculls, which event was taken by Mervyn Wood of Australia. The United States dominated basketball; triumphed in weightlifting; won two firsts in wrestling; two in yachting, along with team honors; captured the top prize in shooting; tied with the Czechs in canoeing; and won the trying 3-day team event in the equestrian tests.

Eight track and field records for men were broken and two tied despite rain that fell day after day at Wembley. Mal Whitfield, Bill Porter, Roy Cochran, and Wilbur Thompson of the United States each set a new standard for the Olympics, while Harrison Dillard tied the mark for the 100-meter dash. Bob Mathias, Tulare, Cal., schoolboy, was one of the outstanding heroes, the 17-year old capturing the decathlon after two days of punishing competition against the world's best.

The marathon, prize race of the ancient games, was won by Delfo Cabrera of Buenos Aires, a comparative unknown. Another hero was Emil Zatopek, who annexed the 10,000-meter run in record time. And in the 5,000-meter race, the young Czech Army officer put on an unforgettable sprint to finish only one-fifth of a second behind Gaston Reiff of Belgium as both bettered the Olympic standard.

Mrs. Fanny Blankers-Koen, 30-year-old Amsterdam housewife and the mother of two children, became the greatest woman athlete the Olympics have known in winning four gold medals in track. The slender star took the 80-meter hurdles in world-record time of 0:11.2 and led the Netherlands girls to team honors. Alice Coachman established a new mark in winning the high jump for the only United States victory in women's track and field.

United States male swimmers made four new Olympic marks, Walter Ris, Bill Smith, Joe Verdecour and the 800-meter team of Ris, Wallace Wolf, Jimmy McLane, and Smith setting new standards. Ann Curtis was the only American to win one of the four individual races for feminine swimmers. The California beauty set an Olympic record in the 400-meter free style and anchored the winning 400-meter relay team. Mrs. Victoria Draves cap-

tured both the low and high diving events for the United States to become the first woman to achieve that feat in Olympic competition. See OLYMPIC GAMES, WINTER.

Results of the XIV Olympiad. The final placings in the XIV Olympiad, according to the Olympic Results issue of *World Sports* (September, 1948), are listed in the accompanying table.

BASKETBALL		
1 U.S.A.	3 Brazil	5 Uruguay
2 France	4 Mexico	6 Chile
BOXING		
FLYWEIGHT		
P. Perez (Argentina) beat S. Randinelli (Italy) on pts.		
Third place: Son Ann Han (Korea) beat F. Majdloch (Czechoslovakia) on pts.		
HANDBALL		
WOMEN'S		
T. Czik (Hungary) beat G. Zudday (Italy) on pts.		
Third place: J. Venezas (Puerto Rico) beat A. Domenech (Spain) on pts.		
LEATHERWEIGHT		
E. Formenti (Italy) beat D. Shepherd (S. Africa) on pts.		
Third place: A. Antkiewicz (Poland) beat P. Nunez (Argentina) on pts.		
LIGHTWEIGHT		
G. Drever (S. Africa) beat J. Vissers (Belgium) on pts.		
Third place: S. Wad (Denmark) w.o.; W. Smith (U.S.A.) withdrew.		
MIDDLEWEIGHT		
J. Totma (Czechoslovakia) beat H. Herring (U.S.A.) on pts.		
Third place: A. d'Ottavio (Italy) beat D. du Preux (S. Africa) on pts.		
HEAVYWEIGHT		
L. Papp (Hungary) beat J. Wright (Great Britain) on pts.		
Third place: I. Fontana (Italy) w.o.; M. McKeon (Ire) withdrew.		
LIGHT HEAVYWEIGHT		
G. Hunter (S. Africa) beat D. Scott (Great Britain) on pts.		
Third place: M. Gu (Argentina) beat A. Holmes (Australia) in 3rd round.		
HEAVYWEIGHT		
R. Iglesias (Argentina) k.o. N. Nilsson (Sweden) in 2nd round.		
Third place: J. Athan (S. Africa) w.o.; H. Muller (Switzerland) withdrew.		
CANOEING		
10,000 METERS KAYAK SINGLES		
1 G. Fredriksson (Sweden).....	50 m. 47.7 s.	
2 K. Wires (Finland).....	51 m. 18.2 s.	
3 E. Skabo (Norway).....	51 m. 54.4 s.	
10,000 METERS CANADIAN SINGLES		
1 J. Holcek (Czechoslovakia).....	1 h. 2 m. 5.2 s.	
2 F. B. Havens (U.S.A.).....	1 h. 2 m. 40.4 s.	
3 D. H. Bennett (Canada).....	1 h. 4 m. 35.5 s.	
10,000 METERS KAYAK PAIRS		
1 Sweden.....	46 m. 9.4 s.	
2 Norway.....	46 m. 44.5 s.	
3 Finland.....	46 m. 48.2 s.	
10,000 METERS CANADIAN PAIRS		
1 U.S.A.....	55 m. 55.4 s.	
2 Czechoslovakia.....	57 m. 38.5 s.	
3 France.....	58 m. 0.8 s.	
1,000 METERS KAYAK PAIRS		
1 Sweden.....	4 m. 7.3 s.	
2 Denmark.....	4 m. 7.5 s.	
3 Finland.....	4 m. 8.7 s.	
500 METERS KAYAK SINGLES (WOMEN)		
1 K. Hoff (Denmark).....	2 m. 31.9 s.	
2 Van der Auken-Doelans (Holland).....	2 m. 32.8 s.	
3 F. Schwingl (Austria).....	2 m. 32.9 s.	
1,000 METERS KAYAK SINGLES		
1 G. Fredriksson (Sweden).....	4 m. 33.2 s.	
2 J. Andersen (Denmark).....	4 m. 39.9 s.	
3 H. Eberhardt (France).....	4 m. 41.4 s.	
1,000 METERS CANADIAN SINGLES		
1 J. Holcek (Czechoslovakia).....	5 m. 42.0 s.	
2 D. H. Bennett (Canada).....	5 m. 53.3 s.	
3 R. Boutigny (France).....	5 m. 55.9 s.	

1,000 METERS CANADIAN PAIRS

1 Czechoslovakia	5 m. 7.1 s.
2 U.S.A.	5 m. 8.2 s.
3 France	5 m. 15.2 s.

CYCLING

2,000 METERS TANDEM

1 Italy (F. Teruzzi, R. Perona).
2 Great Britain (R. Harris, A. Bannister).
3 France (R. Faye, G. Dron).
4 Switzerland (J. Roth, M. Aeberli).

1,000 METERS TIME TRIAL

1 J. Dupont (France)	1 m. 13.5 s.
2 J. Nihant (Belgium)	1 m. 14.5 s.
3 T. Godwin (Great Britain)	1 m. 15 s.

1,000 METERS SCRATCH

1 M. Ghella (Italy).	3 A. Schandorff (Denmark).
2 R. Harris (Great Britain).	4 C. Bazzano (Australia).

4,000 METERS TEAM PURSUIT

France (P. Adam, S. Blusson, C. Coste, F. Decanali), 4 m. 57.8 s., beat.
Italy (Benefenati, Bernadi, Citterio, Pucci), 5 m. 36.7 s.

Third Place Match

Great Britain (R. Geldard, T. Godwin, D. Ricketts, W. Waters), 4 m. 55.6 s. beat.
Uruguay (de Armas, Benrasky, Francois, de Los Santos), 5 m. 4.4 s.

ROAD RACE

203 kilometers 8 meters (120 miles 914 yds.)

1 J. Beyaert (France)	5 h. 18 m. 12.6 s.
2 G. P. Voorting (Holland)	5 h. 18 m. 16.2 s.
3 L. Wouters (Belgium)	5 h. 18 m. 16.2 s.
4 L. Delathouwer (Belgium)	5 h. 18 m. 16.2 s.

Team Placings

1 Belgium	3 France	5 Sweden
2 Great Britain	4 Italy	6 Switzerland

EQUESTRIAN

1 Capt. B. Chevallier (France)	Marks
2 Lt.-Col. F. S. Henry (U.S.A.)	+ 4
3 Capt. J. R. Selfelt (Sweden)	-21
	-25

Team Placings

1 U.S.A.	-161%	4 Switzerland	-404%
2 Sweden	-165	5 Spain	-422½
3 Mexico	-305%	No other complete teams.	

PRIX DES NATIONS

1 H. M. Cortes (Mexico)	Faults
2 R. Uriza (Mexico)	6½
3 Chev. J. F. d'Orgeix (France)	8°
	8°

° After a jump off.

Team Placings

1 Mexico	Faults
2 Spain	34½
3 Great Britain	56½
	67

FENCING

EPEE INDIVIDUAL

1 L. Cantone (Italy)	7 wins
2 O. Zappelli (Switzerland)	5 wins
3 E. Mangiarotti (Italy)	5 wins

EPEE: TEAMS

1 France	2 Italy	3 Sweden	4 Denmark
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FOIL: INDIVIDUAL

1 J. Buhan (France)	7 wins
2 C. d'Orliola (France)	5 wins
3 L. Mazlay (Hungary)	4 wins 22 hits against

FOIL: TEAMS

1 France	2 Italy	3 Belgium	4 U.S.A.
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WOMEN'S FOILS

1 A. Elek (Hungary)	6 wins
2 K. Lachmann (Denmark)	5 wins*
3 E. Muller-Fredl (Austria)	5 wins*

* Decided on hits against.

SABRE: INDIVIDUAL

1 A. Gerevich (Hungary)	7 wins
2 V. Pinton (Italy)	5 wins, 23 hits against
3 P. Kovacs (Hungary)	5 wins, 24 hits against

SABRE: TEAMS

1 Hungary	2 Italy	3 U.S.A.	4 Belgium
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FOOTBALL

FINAL

Sweden, 3; Yugoslavia, 1.

Third Place Match

Denmark, 5; Great Britain, 3.

GYMNASTICS

MEN'S TEAM

	Points
1 Finland	1,358.3
2 Switzerland	1,356.7
3 Hungary	1,330.85

INDIVIDUAL

1 V. A. Huhtanen (Finland)	239.7
2 W. Lehmann (Switzerland)	239
3 P. Aaltonen (Finland)	228.8

WOMEN'S TEAM

1 Czechoslovakia	445.45
2 Hungary	440.55
3 U.S.A.	422.6

HOCKEY (FIELD)

India, 4; Great Britain, 0.

Third Place Match

Holland, 4; Pakistan, 1.

MODERN PENTATHLON

(RIDING, FENCING, SHOOTING, SWIMMING, CROSS-COUNTRY RUNNING)

	Points
1 Capt. W. Grut (Sweden)	16
2 Maj. G. B. Moore (U.S.A.)	47
3 Lt. G. Gardin (Sweden)	49

Capt. Grut finished 1st in Riding, 1st in Fencing, 5th in Shooting, 1st in Swimming, and 8th in Cross-country Running. The three-event wins and the total number of 16 points both constitute a new Olympic record.

ROWING

SINGLE SCULLS

1 M. Wood (Australia)	7 m. 24.4 s.
2 G. Risso (Uruguay)	7 m. 38.2 s.
3 R. Catasta (Italy)	7 m. 51.4 s.

DOUBLE SCULLS

1 Great Britain (B. Bushnell, R. Burnell, str.)	6 m. 51.3 s.
2 Denmark (A. Larsen, E. Parsner, str.)	6 m. 55.3 s.
3 Uruguay (J. Rodrigney, W. Jones, str.)	7 m. 12.4 s.

COXED PAIRS

1 Denmark (T. Henriksen, F. Pedersen, str., C. Andersen, cox)	8 m. 0.5 s.
2 Italy (A. Tarlao, G. Steffe, str., A. Radi, cox)	8 m. 12.2 s.
3 Hungary (B. Zsitulik, A. Szendei, str., R. Zimonyi, cox)	8 m. 25.2 s.

COXSWAINLESS PAIRS

1 Great Britain (W. Laurie, J. Wilson, str.)	7 m. 21.1 s.
2 Switzerland (J. Kalt, H. Kalt, str.)	7 m. 23.9 s.
3 Italy (B. Bovi, F. Fanetti, str.)	7 m. 31.5 s.

COXED FOURS

1 U.S.A. (G. Giovannelli, bow; R. Will, R. Martin, W. Westlund, str.; A. Morgan, cox)	6 m. 50.3 s.
2 Switzerland (P. Stebler, bow; E. Knecht, E. Schriever, R. Reichling, str.; A. Moccand, cox)	6 m. 53.3 s.
3 Denmark (H. Knudsen, bow; H. Larsen, B. Neilsen, E. Larsen, str.; I. Ilsen, cox)	6 m. 58.6 s.

COXSWAINLESS FOURS

1 Italy (F. Faggi, G. Invernizzi, E. Merville, G. Moio, str.)	6 m. 39 s.
2 Denmark (I. Larsen, H. Schroder, A. Hansen, H. Halkjaer, str.)	6 m. 43.5 s.
3 U.S.A. (P. Perew, G. Gates, S. Griffing, F. Kingsbury, str.)	6 m. 47.7 s.

EIGHTS

1 U.S.A. (J. Stack, bow; J. Smith, D. Brown, L. Lloyd-Butler, G. Ahlgren, J. Hardy, D. Turner, I. Turner, str.; R. Purchase, cox)	5 m. 56.7 s.
2 Great Britain (A. Mellows, bow; D. Meyrick, C. Lloyd, P. Massey, E. Bircher, G. Richardson, H. Lapage, C. Barton, str.; J. Dearlove, cox)	6 m. 6.9 s.
3 Norway (C. Moussen, bow; T. Pedersen, L. Naess, H. Kraakenes, H. Olsen, H. Hansen, T. Kraakenes, K. Lepsoe, str.; S. Moussen, cox)	6 m. 10.3 s.

SHOOTING

RAPID FIRE PISTOL (25 METERS)

	Hits	Points
1 K. Takacs (Hungary)	60	580

2 C. Vallente (Argentina).....	60	571
3 S. Lundquist (Sweden).....	60	569

FREE PISTOL (50 METERS)

1 E. Vasquez Cam (Peru).....	5:15
(E. Ullman (Sweden).....	5:33
2 R. Schneider (Switzerland).....	5:39
(H. La Benner (U.S.A.).....	5:39

FREE RIFLE (SMALLBORE) 50 METERS

1 A. Cook (U.S.A.).....	599
2 W. Tonsen (U.S.A.).....	599
3 E. J. Jonsson (Sweden).....	597

FREE RIFLE (300 METERS)

1 E. Grunig (Switzerland).....	1,150
2 P. A. Jauhonen (Finland).....	1,114
3 R. Roegeberg (Norway).....	1,112

SWIMMING (MEN)

100 METERS FREE-STYLE

World record: 55.4 s., A. R. Ford (U.S.A.) 1948.	
Olympic record: 57.3 s., W. Ris (U.S.A.) 1948.	
Previous Olympic record: 57.5 s., M. Taguchi (Japan) 1936.	
1 W. Ris (U.S.A.)	57.3 s.
2 A. Ford (U.S.A.)	57.8 s.
3 G. Kadas (Hungary)	58.1 s.

200 METERS BREAST-STROKE

World record: 2 m. 30 s., J. Verdon (U.S.A.) 1948.	
Olympic record: 2 m. 39.3 s., J. Verdon (U.S.A.) 1948.	
Previous Olympic record: 2 m. 42.5 s., T. Hamuro (Japan) 1936.	
1 J. Verdon (U.S.A.).....	2 m. 39.3 s.
2 K. Carter (U.S.A.).....	2 m. 40.2 s.
3 R. Sohl (U.S.A.).....	2 m. 43.9 s.

400 METERS FREE-STYLE

World record: 4 m. 35.2 s., A. Jany (France) 1947.	
Olympic record: 4 m. 41.0 s., W. Smith (U.S.A.) 1948.	
Previous Olympic record: 4 m. 44.5 s., J. Medina (U.S.A.) 1936.	
1 W. Smith (U.S.A.).....	4 m. 41.0 s.
2 J. McLane (U.S.A.).....	4 m. 43.4 s.
3 J. Marshall (Australia).....	4 m. 47.7 s.

100 METERS BACK-STROKE

World record: 1 m. 4 s., A. Stack (U.S.A.) 1948	
Olympic record: 1 m. 5.9 s., A. Kiefer (U.S.A.) 1936.	
1 A. Stack (U.S.A.).....	1 m. 6.4 s.
2 R. Cowell (U.S.A.).....	1 m. 6.5 s.
3 G. Vallerey (France).....	1 m. 7.8 s.

1,500 METERS FREE-STYLE

World record: 18 m. 58.8 s., F. Amaro (Japan) 1938.	
Olympic record: 19 m. 12.4 s., K. Kikamura (Japan) 1932.	
1 J. McLane (U.S.A.)	19 m. 18.5 s.
2 J. Marshall (Australia)	19 m. 31.3 s.
3 G. Mitro (Hungary)	19 m. 43.2 s.

HIGH PLATFORM DIVING

1 S. Lee (U.S.A.).....	Points
2 B. Harlan (U.S.A.).....	130.05
3 J. Capilla (Mexico).....	123.30
	113.52

SPRINGBOARD DIVING

1 B. Harlan (U.S.A.).....	Points
2 M. Anderson (U.S.A.).....	104.64
3 S. Lee (U.S.A.).....	157.39
	145.52

800 METERS RELAY

World record: 8 m. 46 s., U.S.A. (W. Ris, W. Wolf, J. McLane, W. Smith) 1948.	
Olympic record: 8 m. 46 s., W. Ris, W. Wolf, J. McLane, W. Smith (U.S.A.) 1948.	
Previous Olympic record: 8 m. 51.5 s., G. M. Yuss, S. H. Sugawara, Th. Arn, M. Taguchi (Japan) 1936.	
1 U.S.A. (W. Ris, W. Wolf, J. McLane, W. Smith)	8 m. 46 s.
2 Hungary (I. Nyeki, G. Mitro, E. Szatmari, G. Kadav)	8 m. 48.4 s.
3 France (H. Padou, E. Cornu, J. Bernardo, A. Jany)	9 m. 0.8 s.

WATER POLO

Final Group			
Italy.....	4	Holland.....	2
Hungary.....	3	Belgium.....	0
Hungary.....	4	Holland.....	4

Final Placings

1 Italy.....	3 Holland.....	5 Sweden.....	7 Egypt.....
2 Hungary.....	4 Belgium.....	6 France.....	8 Spain.....

SWIMMING (WOMEN)

100 METERS FREE-STYLE

World record: 1 m. 46 s., W. den Ouden (Holland) 1936.	
Olympic record: 1 m. 59 s., H. Mastenbrück (Holland) 1936.	
1 G. Andersen (Denmark).....	1 m. 56.8 s.
2 A. Curtis (U.S.A.).....	1 m. 56.5 s.
3 M. Vassen (Holland).....	1 m. 57.6 s.

100 METERS RELAY

World record: 4 m. 27.6 s., Denmark (Arndt, Kraft, Petersen, Heger) 1936.	
Olympic record: 4 m. 29 s., U.S.A. (Corridon, Heiser, Kalana, Curtis) 1948.	
Previous Olympic record: 4 m. 36 s., Holland (Selbach, Wagner, den Ouden, Mastenbrück) 1936.	
1 U.S.A. (M. Corridon, B. Heiser, T. Kalana, A. Curtis)	4 m. 29.2 s.
2 Denmark (Ruse, Haup, Christensen, Andersen)	4 m. 29.9 s.
3 Holland (Marsman, Selbachmacher, Termeulen, Vassen)	4 m. 31.3 s.

100 METERS BACK-STROKE

World record	1 m. 10.9 s., C. Kuit (Holland) 1936.
Olympic record	1 m. 14.4 s., K. Haup (Denmark) 1948.
Previous Olympic record	1 m. 16.6 s., N. Sohl (Holland) 1936.
1 K. Haup (Denmark)	1 m. 14.4 s.
2 S. Zammelman (U.S.A.)	1 m. 16 s.
3 J. Davies (Australia)	1 m. 16.7 s.

200 METERS BREAST-STROKE

World record: 2 m. 49.2 s., N. van Vliet (Holland) 1948.	
Olympic record: 2 m. 57.2 s., N. van Vliet (Holland) 1948.	
Previous Olympic record: 3 m. 1.9 s., H. Machata (Japan) 1936.	
1 N. Van Vliet (Holland)	2 m. 57.2 s.
2 B. Lyons (Australia)	2 m. 57.7 s.
3 E. Novak (Hungary)	3 m. 00.2 s.

400 METERS FREE-STYLE

World record: 5 m. 01 s., R. Hager (Denmark) 1940.	
Olympic record: 5 m. 17.8 s., A. Curtis (U.S.A.) 1948.	
Previous Olympic record: 5 m. 56.4 s., H. Mastenbrück (Holland) 1936.	
1 A. Curtis (U.S.A.).....	5 m. 17.8 s.
2 K. Haup (Denmark).....	5 m. 21.2 s.
3 C. Gibson (Great Britain).....	5 m. 22.5 s.

HIGH PLATFORM DIVING

1 V. Draves (U.S.A.).....	Points
2 P. Ekener (U.S.A.).....	69.87
3 B. Christophersen (Denmark).....	66.32
	66.04

SPRINGBOARD DIVING

1 V. Draves (U.S.A.).....	Points
2 Z. Olsen (U.S.A.).....	108.74
3 P. Ekener (U.S.A.).....	108.23
	101.80

TRACK AND FIELD (MEN)

100 METERS

World record: 10.2 s., L. C. Owens (U.S.A.) 1936; H. Davis (U.S.A.) 1911.	
Olympic record: 10.4 s., E. Tolun (U.S.A.) 1932.	
1 H. Dillard (U.S.A.)	10.3 s.
2 H. N. Ewell (U.S.A.)	10.4 s.

200 METERS

World record: 20.3 s., J. C. Owens (U.S.A.) 1935.	
Olympic record: 20.7 s., J. C. Owens (U.S.A.) 1936.	
1 M. Patton (U.S.A.)	21.1 s.
2 H. N. Ewell (U.S.A.)	21.1 s.
3 L. La Beach (Panama)	21.3 s.

400 METERS

World record: 46.0 s., R. Harbig (Germany) 1939; and G. Klemmer (U.S.A.) 1932.	
Olympic record: 46.2 s., W. Carr (U.S.A.) 1932; and A. S. Wint (Jamaica) 1948.	
1	A. S. Wint (Jamaica).....46.2
2	H. Mckenley (Jamaica).....46.4
3	M. Whitfield (U.S.A.).....46.9

800 METERS

World record: 1 m. 46.0 s., R. Harbig (Germany) 1939.	
Olympic record: 1 m. 49.2 s., M. Whitfield (U.S.A.) 1948.	
Previous Olympic record: 1 m. 49 s., T. Hampton (Great Britain) 1932.	
1 M. Whitfield (U.S.A.)	1 m. 49.2 s.
2 A. S. Wint (Jamaica)	1 m. 49.5 s.
3 M. Hanseune (France)	1 m. 49.8 s.

1,500 METERS

World record: 3 m. 43 s., G. Hägg (Sweden) 1944; L. Staud (Sweden) 1947.
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Olympic record: 8 m. 47.8 s., J. Lovelock (New Zealand) 1936

- 1 H. Eriksson (Sweden).....3 m. 49.8 s.
- 2 L. Strand (Sweden).....3 m. 50.4 s.
- 3 W. Slijkhuis (Holland).....3 m. 50.4 s.

5,000 METERS

World record: 13 m. 58.2 s., G. Hägg (Sweden) 1942.
Olympic record: 14 m. 17.6 s., G. Reiff (Belgium) 1948.

Previous Olympic record: 14 m. 22.2 s., G. Höckert (Finland) 1936.

- 1 G. Reiff (Belgium).....14 m. 17.6 s.
- 2 E. Zatopek (Czechoslovakia).....14 m. 17.8 s.
- 3 W. Slijkhuis (Holland).....14 m. 26.8 s.

10,000 METERS

World record: 29 m. 35.4 s., V. Heino (Finland) 1944.
Olympic record: 29 m. 59.6 s., E. Zatopek (Czechoslovakia) 1948.

Previous Olympic record: 30 m. 11.4 s., J. Kusocinski (Poland) 1932.

- 1 E. Zatopek (Czechoslovakia).....29 m. 59.6 s.
- 2 A. Mimoun-O-Kacha (France).....30 m. 47.4 s.
- 3 B. Albertsson (Sweden).....30 m. 53.6 s.

MARATHON

(26 miles 385 yds. = 42,195 meters)

Olympic record: 2 h. 29 m. 19.2 s., K. Son (Japan) 1936.

- 1 D. Cabrera (Argentina).....2 h. 34 m. 51.6 s.
- 2 T. Richards (Great Britain).....2 h. 35 m. 7.6 s.
- 3 E. Gailly (Belgium).....2 h. 35 m. 33.6 s.

10,000 METERS WALK

World record: 42 m. 39.6 s., V. Hardmo (Sweden) 1945.
Olympic record: 45 m. 3.0 s.,* J. F. Mikaelsson (Sweden) 1948.

Previous Olympic record: 46 m. 28.4 s., G. Goulding (U.S.A.) 1912.

- 1 J. Mikaelsson (Sweden).....45 m. 13.2 s.
- 2 B. Johansson (Sweden).....45 m. 43.8 s.
- 3 F. Schwab (Switzerland).....46 m. 0.2 s.

* Record made in heat

50,000 METERS WALK

Olympic record: 4 h. 30 m. 41.4 s., H. Whitlock (Great Britain) 1936.

- 1 J. Ljunggren (Sweden).....4 h. 41 m. 52 s.
- 2 G. Godel (Switzerland).....4 h. 48 m. 17 s.
- 3 T. Johnson (Great Britain).....4 h. 48 m. 31 s.

400 METERS RELAY

World record: 39.8 s., U.S.A. (Owens, Metcalfe, Draper, Wykoff) 1936.

Olympic record: 39.8 s., U.S.A. (Owens, Metcalfe, Draper, Wykoff) 1936.

- 1 U.S.A. (H. N. Ewell, L. C. Wright, H. Dillard, M. E. Patton).....40.6 s.
- 2 Great Britain (A. McCorquodale, J. Gregory, K. Jones, J. Archer).....41.3 s.
- 3 Italy (M. Tito, F. Perucconi, C. Monti, A. Siddi).....41.5 s.

1,600 METERS RELAY

World record: 3 m. 8.2 s., U.S.A. (Fuqua, Ablowich, Warner, Carr) 1932.

Olympic record: 3 m. 8.2 s., U.S.A. (Fuqua, Ablowich, Warner, Carr) 1932.

- 1 U.S.A. (A. Harnden, C. Bourland, R. Cochran, M. Whitfield).....3 m. 10.4 s.
- 2 France (J. Kerebel, F. Schewetta, R. Chef d'hotel, J. Lunis).....3 m. 14.8 s.
- 3 Sweden (K. Lundquist, L. Wolfbrandt, F. Alnevik, R. Larsson).....3 m. 16.3 s.

110 METERS HURDLES

World record: 13.7 s., F. Towns (U.S.A.) 1936; F. Wolcott (U.S.A.) 1941.

Olympic record: 13.9 s., W. F. Porter (U.S.A.) 1948.

Previous Olympic record: 14.1 s., F. Towns (U.S.A.) 1936.

- 1 W. F. Porter (U.S.A.).....13.9 s.
- 2 C. Scott (U.S.A.).....14.1 s.
- 3 C. Dixon (U.S.A.).....14.1 s.

400 METERS HURDLES

World record: 50.6 s., G. F. Hardin (U.S.A.) 1934.

Olympic record: 51.1 s., R. B. Cochran (U.S.A.) 1948.

Previous Olympic record: 52.0 s., G. F. Hardin (U.S.A.) 1932.

- 1 R. B. Cochran (U.S.A.).....51.1 s.
- 2 D. White (Ceylon).....51.8 s.
- 3 R. Larsson (Sweden).....52.2 s.

HIGH JUMP

World record: 2.11 meters (6 ft. 11 in.), L. Steers (U.S.A.) 1941.

Olympic record: 2.03 meters (6 ft. 8 in.), C. Johnson (U.S.A.) 1936.

- 1 J. Winter (Australia).....1.98 meters (6 ft. 6 in.)
- 2 B. Paulson (Norway).....1.95 meters (6 ft. 4.77 in.)
- 3 T. Edleman (U.S.A.).....1.95 meters (6 ft. 4.77 in.)
- 4 G. Stanich (U.S.A.).....1.95 meters (6 ft. 4.77 in.)

LONG JUMP

World record: 8.13 meters (26 ft. 8¼ in.), J. C. Owens (U.S.A.) 1935.

Olympic record: 8.06 meters (26 ft. 5½ in.), J. C. Owens (U.S.A.) 1936.

- 1 W. Steele (U.S.A.).....7.825 meters (25 ft. 8 in.)
- 2 T. Bruce (Australia).....7.555 meters (24 ft. 9¼ in.)
- 3 H. P. Douglas (U.S.A.).....7.545 meters (24 ft. 9 in.)

HOP, STEP AND JUMP

World record: 16.00 meters (52 ft. 6 in.), N. Tajima (Japan) 1936.

Olympic record: 16.00 meters (52 ft. 6 in.), N. Tajima (Japan) 1936.

- 1 A. Ahman (Sweden).....15.40 meters (50 ft. 6¼ in.)
- 2 G. Avery (Australia).....15.365 meters (50 ft. 5¼ in.)
- 3 R. Sarialp (Turkey).....15.025 meters (49 ft. 3¼ in.)

POLE VAULT

World record: 4.77 meters (15 ft. 7¾ in.), C. Warner (U.S.A.) 1942.

Olympic record: 4.35 meters (14 ft. 3¼ in.), E. Meadows (U.S.A.) 1936.

- 1 O. Smith (U.S.A.).....4.30 meters (14 ft. 1¼ in.)
- 2 E. Kataja (Finland).....4.20 meters (13 ft. 9¼ in.)
- 3 R. Richards (U.S.A.).....4.20 meters (13 ft. 9¼ in.)

DECATHLON

Olympic record: 7,900 pts., G. E. Morris (U.S.A.) 1936.

- | | |
|-----------------------------|--------|
| 1 R. Mathias (U.S.A.)..... | Points |
| 2 I. Heinrich (France)..... | 7,139 |
| 3 F. Simmons (U.S.A.)..... | 6,974 |
| | 6,950 |

STEEPLECHASE (3,000 METERS)

Olympic record: 9 m. 3.8 s., V. Iso-Hollo (Finland) 1936.

- 1 T. Sjostrand (Sweden).....9 m. 4.6 s.
- 2 E. Elmsaeter (Sweden).....9 m. 8.2 s.
- 3 G. Hagstroem (Sweden).....9 m. 11.8 s.

WEIGHT

World record: 17.40 meters (57 ft. 1 in.), J. Torrance (U.S.A.) 1934.

Olympic record: 17.12 meters (56 ft. 2 in.), W. Thompson (U.S.A.) 1948.

Previous Olympic record: 16.20 meters (53 ft. 1¼ in.), H. Woellke (Germany) 1936.

- 1 W. Thompson (U.S.A.).....17.12 meters (56 ft. 2 in.)
- 2 A. Delaney (U.S.A.).....16.68 meters (54 ft. 8¼ in.)
- 3 J. Fuchs (U.S.A.).....16.42 meters (53 ft. 10¼ in.)

DISCUS

World record: 54.93 meters (180 ft. 2¼ in.), R. Fitch (U.S.A.) 1946.

Olympic record: 52.78 meters (173 ft. 2 in.), A. Consolini (Italy) 1948.

Previous Olympic record: 50.48 meters (165 ft. 7½ in.), K. Carpenter (U.S.A.) 1936.

- 1 A. Consolini (Italy).....52.78 meters (173 ft. 2 in.)
- 2 G. Tosi (Italy).....51.78 meters (169 ft. 10¼ in.)
- 3 F. Gordien (U.S.A.).....50.77 meters (166 ft. 7 in.)

HAMMER

World record: 59.00 meters (193 ft. 6¾ in.), E. Blask (Germany) 1936.

Olympic record: 56.49 meters (185 ft. 4¼ in.), K. Hein (Germany) 1936.

- 1 I. Nemeth (Hungary).....56.07 meters (183 ft. 11¼ in.)
- 2 I. Gubjan (Yugoslavia).....54.27 meters (178 ft. 0¼ in.)
- 3 R. Bennett (U.S.A.).....53.73 meters (176 ft. 3¼ in.)

JAVELIN

World record: 78.70 meters (258 ft. 2¼ in.), Y. Nikkanen (Finland) 1938.

Olympic record: 72.71 meters (238 ft. 6¼ in.), M. Järvinen (Finland) 1932.

- 1 K. Rautavaara (Finland).....69.77 meters (228 ft. 10¼ in.)
- 2 S. Seymour (U.S.A.).....67.56 meters (221 ft. 7¼ in.)
- 3 J. Varszegi (Hungary).....67.03 meters (219 ft. 11 in.)

TRACK AND FIELD (WOMEN)

100 METERS

World record: H. H. Stephens (U.S.A.) 11.5 s., 1936.

Olympic record: H. H. Stephens (U.S.A.) 11.4 s., 1936.

- 1 F. Blankers-Koen (Holland).....11.9 s.
- 2 D. Manley (Great Britain).....12.2 s.
- 3 S. Strickland (Australia).....12.2 s.

200 METERS

World record: 23.6 s., S. Walasiewicz (Poland) 1935.

New Olympic event.

- 1 F. Blankers-Koen (Holland).....24.4 s.
- 2 A. Williamson (Great Britain).....25.1 s.
- 3 A. Patterson (U.S.A.).....25.2 s.

400 METERS RELAY

World record: 46.4 s., Germany (E. Albus, K. Krauss, M. Dollinger, I. Dorfheldt) 1936.

Olympic record: 46.4 s., Germany (Albus, Krauss, Dollinger, Dorfheldt) 1936.

1	Holland (X. Stad-de-Jong, J. Witziers-Timmer, V. D. Kade-koudus, F. Blankers-Koen)	47.5 s.
2	Australia (S. Strickland, I. McLean, B. McKinnon, J. King)	47.6 s.
3	Canada (V. Myers, N. Mackay, D. Foster, P. Jones)	47.8 s.

80 METERS HURDLES

World record:	11.2 s., F. Blankers-Koen (Holland) 1948;
M. Gardner (Great Britain) 1948.	
Previous World record:	11.3 s., G. Testoni (Italy) 1939;
F. Blankers-Koen (Holland) 1948.	
Olympic record:	11.2 s., F. Blankers-Koen (Holland) 1948;
M. Gardner (Great Britain) 1948.	
Previous Olympic record:	11.6 s., T. Valla (Italy) 1936.
1 F. Blankers-Koen (Holland)	11.3 s.
2 M. Gardner (Great Britain)	11.3 s.
3 S. Strickland (Australia)	11.4 s.

JAVELIN

World record:	A. Steinhilber (Germany) 47.24 meters (154 ft. 10 $\frac{3}{4}$ in.) 1942.
Olympic record:	H. Bauma (Austria) 45.57 meters (149 ft. 6 in.) 1948.
Previous Olympic record:	T. Fleischer (Germany) 45.16 meters (148 ft. 2 $\frac{3}{4}$ in.) 1936.
1 H. Bauma (Austria)	45.57 meters (149 ft. 6 in.)
2 K. Parviainen (Finland)	45.79 meters (149 ft. 8 in.)
3 M. Carlstedt (Denmark)	42.08 meters (138 ft. 0 $\frac{1}{2}$ in.)

HIGH JUMP

World record:	1.71 meters (5 ft. 7 $\frac{1}{4}$ in.), F. Blankers-Koen (Holland), 1948.
Olympic record:	1.68 meters (5 ft. 6 $\frac{1}{4}$ in.), A. Coachman (U.S.A.) and D. Tyler (Great Britain) 1948.
Previous Olympic record:	1.657 meters (5 ft. 5 $\frac{1}{2}$ in.), J. Shiley (U.S.A.) and M. Didrikson (U.S.A.) 1932.
1 A. Coachman (U.S.A.)	1.68 m. (5 ft. 6 $\frac{1}{4}$ in.)
2 D. Tyler (Great Britain)	1.68 m. (5 ft. 6 $\frac{1}{4}$ in.)
3 M. Ostermeyer (France)	1.61 m. (5 ft. 5 $\frac{1}{2}$ in.)

DISCUS

World record:	48.31 meters (158 ft. 6 in.), G. Mauer-mayer (Germany), 1936.
Olympic record:	47.63 meters (156 ft. 3 $\frac{1}{2}$ in.), G. Mauer-mayer (Germany) 1936.
1 M. Ostermeyer (France)	41.92 m. (137 ft. 6 $\frac{1}{2}$ in.)
2 G. Gentile (Italy)	41.10 m. (135 ft. 1 in.)
3 J. Mazars (France)	41.17 m. (135 ft. 0 $\frac{1}{2}$ in.)

LONG JUMP

World record:	6.25 meters (20 ft. 6 in.), F. Blankers-Koen (Holland) 1948.
New Olympic event.	
1 V. Gyarmati (Hungary)	5.69 m. (18 ft. 8 $\frac{1}{4}$ in.)
2 N. de Portela (Argentina)	5.60 m. (18 ft. 4 $\frac{1}{2}$ in.)
3 A. Leyman (Sweden)	5.575 m. (18 ft. 3 $\frac{1}{2}$ in.)

WEIGHT

World record:	14.38 meters (47 ft. 2 $\frac{1}{4}$ in.), G. Mauer-mayer (Germany) 1934.
New Olympic event.	
1 M. Ostermeyer (France)	13.75 m. (45 ft. 1 $\frac{1}{2}$ in.)
2 A. Piccinini (Italy)	13.093 m. (42 ft. 11 $\frac{1}{2}$ in.)
3 P. Schaeffer (Austria)	13.08 m. (42 ft. 11 in.)

WEIGHTLIFTING

BANTAMWEIGHT

1 J. N. de Pietro (U.S.A.)	307.315 kg. (677 $\frac{1}{2}$ lb.)
2 J. Greus (Great Britain)	297.345 kg. (655 $\frac{1}{2}$ lb.)
3 R. Tom (U.S.A.)	294.84 kg. (650 lb.)

FEATHERWEIGHT

1 M. Fayal (Egypt)	332.265 kg. (732 $\frac{1}{2}$ lb.)
2 R. A. Wilkes (Trinidad)	314.79 kg. (694 lb.)
3 J. Sahmassi (Iran)	312.305 kg. (688 $\frac{1}{2}$ lb.)

LIGHTWEIGHT

1 I. Shams (Egypt)	360 kg. (793 $\frac{1}{2}$ lb.)
2 A. Hamouda (Egypt)	360 kg. (793 $\frac{1}{2}$ lb.)
3 J. Halliday (Great Britain)	340.11 kg. (749 $\frac{1}{2}$ lb.)

MIDDLEWEIGHT

1 F. Spellman (U.S.A.)	390 kg. (859 $\frac{1}{2}$ lb.)
2 P. George (U.S.A.)	382.5 kg. (842 $\frac{1}{2}$ lb.)
3 S. J. Kim (Korea)	380 kg. (837 $\frac{1}{2}$ lb.)

LIGHT HEAVYWEIGHT

1 S. A. Stanczyk (U.S.A.)	417.5 kg. (920 lb.)
2 H. Sakata (U.S.A.)	380 kg. (837 $\frac{1}{2}$ lb.)
3 K. Magnusson (Sweden)	375 kg. (826 $\frac{1}{2}$ lb.)

HEAVYWEIGHT

1 A. Davis (U.S.A.)	452.5 kg. (997 $\frac{1}{2}$ lb.)
2 N. Schemansky (U.S.A.)	425 kg. (936 $\frac{1}{2}$ lb.)
3 A. Charite (Holland)	412.5 kg. (909 lb.)

WRESTLING (FREE-STYLE)

FLYWEIGHT

1 V. Vitala (Finland)
2 H. Balamir (Turkey)
3 T. Johansson (Sweden)

BANTAMWEIGHT

1 N. Alar (Turkey)
2 G. Leaman (U.S.A.)
3 C. Konvor (France)

FEATHERWEIGHT

1 G. Bilge (Turkey)
2 S. John (Sweden)
3 A. Mueller (Switzer-land)

LIGHTWEIGHT

1 C. Afik (Turkey)
2 A. Frandous (Sweden)
3 H. Baumann (Switzer-land)

WELTERWEIGHT

1 Y. Dogan (Turkey)
2 R. Garand (Australia)
3 L. Merrill (U.S.A.)

MIDDLEWEIGHT

1 G. Brand (U.S.A.)
2 A. Caudemar (Turkey)
3 E. Linden (Sweden)

LIGHT HEAVYWEIGHT

1 H. Wittenberg (U.S.A.)
2 F. Stockli (Switzerland)
3 B. Fahlkvist (Sweden)

HEAVYWEIGHT

1 G. Bobik (Hungary)
2 B. Antonsson (Sweden)
3 J. Arndtson (Australia)

WRESTLING (GRIKO ROMAN)

FLYWEIGHT

1 P. Lombardi (Italy)
2 K. Olcay (Turkey)
3 R. Kangamacki (Fin-land)

BANTAMWEIGHT

1 K. Petersen (Sweden)
2 M. Hassan Aly (Egypt)
3 H. Kaya (Turkey)

FEATHERWEIGHT

1 M. Oktay (Turkey)
2 O. Anclhane (Sweden)
3 P. Totic (Hungary)

LIGHTWEIGHT

1 K. Freij (Sweden)
2 A. Erikson (Norway)
3 K. Fekenev (Hungary)

WELTERWEIGHT

1 G. Andersson (Sweden)
2 M. Szlavay (Hungary)
3 C. Hansen (Denmark)

MIDDLEWEIGHT

1 R. Gornberg (Sweden)
2 M. Tavlar (Turkey)
3 E. Gallegati (Italy)

LIGHT HEAVYWEIGHT

1 K. Nilson (Sweden)
2 K. Goendahl (Finland)
3 I. Oulu (Egypt)

HEAVYWEIGHT

1 A. Kircen (Turkey)
2 T. Nilson (Sweden)
3 G. Fantoni (Italy)

YACHTING

6 METER CLASS

	Point.		Points
1 U.S.A.	5,472	4 Norway	3,217
2 Argentina	5,120	5 Great Britain	2,879
3 Sweden	4,914	6 Belgium	2,752

DRAGON CLASS

1 Norway	4,746	4 Great Britain	3,948
2 Sweden	4,621	5 Italy	3,866
3 Denmark	4,223	6 Finland	3,057

STAR CLASS

1 U.S.A.	5,928	4 Great Britain	4,372
2 Cuba	4,849	5 Italy	4,370
3 Holland	4,744	6 Portugal	4,292

SWALLOW CLASS

1 Great Britain	5,625	4 Sweden	3,342
2 Portugal	5,379	5 Denmark	2,585
3 U.S.A.	4,352	6 Italy	2,893

FIRFLY CLASS

1 Denmark	5,544	4 Sweden	4,603
2 U.S.A.	5,408	5 Canada	4,595
3 Holland	5,204	6 Uruguay	4,079

HOW THE NATIONS FINISHED *

Country	Points	Country	Points
United States	6,475	Argentina	605
Sweden	3085	Belgium	58
France	206	Austria	44
Hungary	1831	Canada	381
Italy	166	South Africa	36
Great Britain	162	Mexico	355
Finland	153 75	Egypt	3336
Switzerland	1355	Jamaica	20
Denmark	129	Uruguay	17
Netherlands	107	Yugoslavia	17
Australia	82	Korea	150
Czechoslovakia	805	Spain	145
Turkey	72 8	Iran	121
Norway	65 75	Poland	10

* The table shows the unofficial national placings at the XIV Olympic Games. Points are awarded for 1st place, 5 for 2d, 4 for 3d, 3 for 4th, 2 for 5th, and 1 for 6th. Scores of 9 points and less were made by 14 other nations; 17 nations scored no points.

OLYMPIC GAMES, Winter. A series of controversies threatened the fifth Winter Olympic Games, but after many hot verbal exchanges and a little com-

promising on the part of the more cool-headed authorities, the contests got under way at St. Moritz, Switzerland, on Jan. 30, 1948. Despite the plague of changing weather that brought hot sunshine and snowstorms on alternate days, the championships were run off successfully and came to a peaceful conclusion on February 8.

The hockey championship, one of the big prizes of the games, was not decided until the closing day, when Canada defeated Switzerland, 3-0, thereby gaining enough points to give Canada first place on a goals-average basis. The United States Amateur Hockey Association six, center of most of the dissension, lost to the Czechs, 4-3, in its final game. The real trouble started when the Amateur Athletic Union and the Amateur Hockey Association became involved in a battle as to who was entitled to represent the U.S. in the Olympics. For a time the A.A.U. threatened to withdraw all of its competitors, a move that caused the St. Moritz mayor to say he would cancel the games if Uncle Sam's athletes did not compete. Then the tempest settled when officials got together and announced that the A.H.A. six would represent the United States on the schedule, although its points would not figure in the final standings.

HOW THE NATIONS PLACED *

Country	Firsts	Seconds	Thirds	Points
Sweden	4	3	3	70
Switzerland	3	4	3	68
United States	3	4	2	67½
Norway	4	3	3	57
Austria	1	4	4	48
Finland	1	3	2	46
France	2	1	2	33
Italy	1	0	0	22
Canada	2	0	1	18½
Belgium	1	1	0	15
Great Britain	0	1	2	15
Czechoslovakia	0	1	0	10
Hungary	0	1	0	10
Netherlands	0	0	0	6
Poland	0	0	0	1

* The scale of values is based on 7 points for the winner, and 5, 4, 3, 2, and 1 points for the following five competitors.

A surprise scorer for the Americans was Mrs. Gretchen Fraser of Vancouver, Wash., who won from Europe's best feminine skiers in the women's slalom. Mrs. Fraser also tallied in the women's Alpine combined event, when she placed second to Trude Beiser of Austria by only thirty-seven one-hundredths of a point.

Richard Button of Englewood, N.J., waltzed off with the men's figure skating award while Canada's Barbara Ann Scott was queen of the women competitors. The four-man bobsled team of Francis Tyler, Lake Placid, N.Y.; Pat Martin, Lake Placid; Ed Rimkus, Schenectady, N.Y., and Bill D'Amico, Lake Placid, added to the United States scoring with first place.

—THOMAS V. HANEY

ONTARIO. A Canadian province lying between Quebec on the east and Manitoba on the west. Area, 412,582 square miles, including 49,300 square miles of fresh water. Population (1948 estimate): 4,297,000, compared with (1941 census) 3,787,655. Principal religious denominations (1941) were: United Church, 1,073,425; Roman Catholic, 882,369; Anglican, 815,413; Presbyterian, 433,708; Baptist, 192,915; and Lutheran, 104,111. In 1946 there were 97,446 live births, 39,758 deaths, and 46,073 marriages. Education (1945-46): 793,934 students enrolled in schools and colleges. Chief cities: Toronto, 667,457 (1941); Hamilton, 166,337; Ottawa, 154,951; Windsor, 105,311; London, 78,264; Kitchener, 35,657; Sudbury, 32,203; Brantford, 31,948; Fort William, 30,585; St. Catharines,

30,275; Kingston, 30,126; Timmins, 28,790; Oshawa, 26,813.

Production. The gross value of agricultural production for 1947 was \$601,106,000. Gross farm value of all major field crops produced on 8,108,000 acres in 1947 amounted to \$277,874,000. Chief field crops (1947): oats, 41,490,000 bu. (\$37,341,000); wheat, 18,299,000 bu. (\$25,985,000); barley, 6,930,000 bu. (\$8,440,000); fall rye, 1,444,000 bu. (\$3,697,000); dry beans, 1,282,000 bu. (\$6,903,000); soy beans, 1,110,000 bu. (\$3,397,000); buckwheat, 3,192,000 bu. (\$3,543,000); mixed grains, 25,312,000 bu. (\$23,793,000); flaxseed, 674,000 bu. (\$3,653,000); shelled corn, 6,430,000 bu. (\$12,153,000); potatoes, 9,100,000 cwt. (\$21,658,000); field roots, 9,333,000 cwt. (\$8,845,000); hay and clover, 6,154,000 tons (\$87,941,000). Livestock (June 1, 1947): 2,875,000 cattle, including 1,252,600 milk cows (\$267,471,000), 451,200 horses (\$44,624,000), 2,244,700 swine (\$57,001,000), 667,500 sheep (\$8,695,000), 30,744,600 poultry (\$34,751,000).

Manufacturing. The premier position in manufacturing is maintained by Ontario with a gross value of products of \$3,754,523,701 in 1946. There were 11,424 establishments employing 498,120 persons. Salaries and wages paid amounted to \$845,216,547 and the cost of materials was \$2,001,900,592.

Government. Finance (year ending Mar. 31, 1949): combined ordinary and capital revenues were estimated at \$210,858,000 (1948: \$241,297,000); expenditures at \$228,647,000 (1948: \$208,505,000). The executive authority is vested in a lieutenant governor who is advised by a ministry of the Legislative Assembly. There is a single chamber in the Legislative Assembly comprising 90 members elected for a five-year term by popular vote. At the provincial general election held on June 7, 1948, there were elected 53 Progressive Conservatives, 21 Cooperative Commonwealth Federationists (C.C.F.), 14 Liberals, and 2 others. Ontario is represented in the Dominion Parliament at Ottawa by 24 members (appointed for life) in the Senate and 82 elected members in the House of Commons. Lieutenant Governor, Ray Lawson (appointed Dec. 26, 1946); Premier, Thomas L. Kennedy (Progressive Conservative). See CANADA.

OPHTHALMOLOGY. Chemotherapy has proved of value in the treatment of ocular infections, especially the sulfonamides, because of their bacteriostatic and bactericidal properties. In the superficial lesions, topical applications are effective, and in the deeper seated processes such as orbital cellulitis, cavernous sinus thrombosis, etc., parenteral administration is indicated. These drugs are frequently combined with penicillin with happy results.

Antibiotics. Of the antibiotics, the calcium and potassium salts of penicillin have found extensive use. Infections of the eye caused by the staphylococcus, streptococcus, pneumococcus and the gonococcus respond remarkably well. Penicillin in the form of eye drops or as ointment is used pre- and post-operatively. Massive doses, 300,000 units, intramuscularly are effective in many intra-ocular infectious processes. Another antibiotic, streptomycin, has given encouraging results in infections with the pyocyanus colon, *Pasteurella tularensis*, *brucella* and *staphylococcus aureus* organisms.

Some encouraging reports of the employment of streptomycin in tuberculous ocular disease have appeared, and as the preparations are improved and the indications better understood, it appears likely that this substance will prove of great benefit.

The use of penicillin drops in the prophylaxis of ophthalmia neonatorum has been quite thoroughly studied and, on the whole, the results have been as good as the original Credé's method. It is, however, necessary to employ the penicillin every few hours for several days as against the use of silver nitrate but once. Hence it must be proved that penicillin is more effective than silver nitrate before it can claim to be superior. Two new antibiotics which give promise of being valuable are bacitracin and aureomycin. In the treatment of conjunctival infections and superficial corneal lesions 30 percent sulfacetamide is very effective.

Uveitis. In the treatment of uveitis, the use of fever therapy in the form of typhoid-para-typhoid vaccine has become recognized as standard. The removal of foci of infection is, of course, indicated. Atropine and neo-synephrine to maintain dilatation of the pupil, hot moist compresses, and dionin in the later stages, aid recovery. Immune globulins have been used with apparent benefit.

Glaucoma. In the treatment of congenital glaucoma (buphthalmos) the operation of goniotomy, as proposed by Dr. Otto Barkan, has yielded the best results in the hands of several surgeons. In chronic simple glaucoma, D. F. P. (di-iso-propyl fluorophosphate) has definitely found a place in our list of drugs. It is the most powerful miotic that we have and, in spite of the discomfort which it sometimes causes because of the intense muscular spasm, it reduces intra-ocular tension in many cases more efficiently than other preparations.

As a diagnostic test in cases of suspected early glaucoma, the so-called "lability" test has been found valuable. A cold stimulus is produced by immersing the hand in ice water for one minute while the sleeve of the blood pressure apparatus is fastened about the neck and inflated to 40 mm. The intra-ocular tension is recorded at the end of the minute and a rise of 10 or more mm. over that measured before the test is considered evidence of ocular hypertension. The possibility of an emotional factor in this test cannot be overlooked.

Beta Rays. The use of beta rays has become more widely accepted. Since these rays penetrate only 3 mm. they are suitable for the treatment of non-malignant lesions of the eyelids and of the anterior segment of the eye, especially for tuberculous conditions, for vernal conjunctivitis and lesions of the cornea, particularly recent vascularization. In the operation of keratoplasty, applications of beta rays are made routinely to prevent the formation of new vessels. No damage to the lens has been observed, either clinically or in experimental animals, from therapeutic doses of the rays.

Retro-Lental Fibroplasia. Reports of cases of retro-lental fibroplasia continue to appear, and while there is little or no treatment which is helpful, it is most important to recognize this condition and to differentiate it from retinoblastoma. In the past, many eyes have been needlessly removed because of failure to recognize the former, which occurs in premature infants. Retro-lental fibroplasia is characterized by the presence of embryonal connective tissue behind the crystalline lens. Often branches of the tunica vasculosa lentis are to be seen. The condition has been observed to occur from 2 to 5 months after the premature birth, and in the originally normal fundus angiomatous dilatations of the retinal vessels are observed. This was followed by massive retinal exudate and the formation of the membrane posterior to the lens. Retinal folds and detachment are often associated with, or are a part of, the condition.

Transplantation of Vitreous. This has been prac-

ticed with some success and pools of vitreous are now being formed to be drawn upon when needed. The procedure is indicated when the vitreous is densely clouded by blood of long standing or other vitreous opacities. In place of new vitreous, after withdrawal of the clouded fluid, the needle may be left in place and some of the patient's own spinal fluid introduced. Quite satisfactory results are reported.

Ophthalmic Surgery. As an aid to ophthalmic surgery, the anesthesia induced by the intravenous use of Pentothal sodium has been of great value. Sufficiently deep narcosis may be obtained and quickly modified and can be maintained for as long as needed. The rapid loss of consciousness and the fact that the anesthetist is not in the operator's field are helpful. A hypodermic of atropine and morphine should be administered 45 minutes before the induction of the anesthesia.

Pentothal is especially adapted for use in the cataract operation upon highly nervous and unstable patients. The operation of corneal transplantation continues to find favor and the knowledge of what type of corneal pathology is best suited to the operation is more clearly defined. Improvements in technic have assured better results, and experience has taught how better to deal with the complications which occur. The operation is being performed by more and more surgeons who have acquired their training through the Eye Bank Foundation.

Iontophoresis. This is used to obtain a greater concentration of drugs than can be secured by medicaments in water, powder or ointment form. From 3 to 15 times greater concentrations are thus obtainable in the tissues of the conjunctiva, cornea and the anterior segment of the eye. Especially since the advent of the sulfonamides and the antibiotics, whose specific affinities are more or less clearly defined, the use of iontophoresis is clearly called for.

Allergy. Any part of the eye or its adnexa may be subject to allergic reaction. The more superficial structures, the lids, conjunctiva and cornea are frequently involved, but the sclera, uveal tract and the nervous structures of the eye are also known to react to different allergens. Frequently these tissues react in association with more remote tissues, such as the nasal mucosa or the gastro-intestinal tract.

Several anti-histaminic drugs have been introduced and have been used in diseases of the eye. One of these, called Antistine, has afforded relief in a variety of allergic conditions. It is of low toxicity, accumulates in the tissues and is strongly active against the histaminic substances, especially of the ragweed type. Benadryl hydrochloride and Pyribenzamine, which are effective against some forms of allergy, seem not to have proved so reliable as Antistine. Vernal catarrh responds well to this preparation. —EUGENE M. BLAKE

OREGON. A Pacific State. Area: 96,981 sq. mi. Population: (July 1, 1948) 1,626,000, compared with (1940 census) 1,089,084. Chief cities: Salem (capital), 30,908 inhabitants in 1940; Portland, 305,394. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$106,763,000; total expenditure, \$99,596,000.

Elections. Dewey won a popular majority over Truman, Wallace, and other candidates, and received the 6 electoral votes which also were his in 1944. Incumbent Republican Senator Guy Cordon

was reelected. All 4 House seats remained Republican. In races for State office, Republican nominee Douglas McKay won a first term as Governor; Earl T. Newbry was reelected Secretary of State and Auditor; George W. Neuner was reelected Attorney General; Walter J. Pearson became Treasurer.

Officers, 1948. Governor, John H. Hall; Lieut. Governor, None; Secretary of State, Earl T. Newbry; Attorney General, George W. Neuner; State Treasurer, Leslie M. Scott; State Auditor, Earl T. Newbry.

ORGANIZATION OF AMERICAN STATES. The 21 American republics are members of the Organization of American States, on a basis of absolute equality. Each country has one vote in the decisions taken at meetings of the Council of the Organization. The list of member countries follows:

ARGENTINA	DOMINICAN REPUBLIC	NICARAGUA
BOLIVIA	ECUADOR	PANAMA
BRAZIL	EL SALVADOR	PARAGUAY
CHILE	GUATEMALA	PERU
COLOMBIA	HAITI	UNITED STATES
COSTA RICA	HONDURAS	URUGUAY
CUBA	MEXICO	VENEZUELA

The Organization accomplishes its purposes by means of:

1. The Inter-American Conference, meeting every five years, at which representatives of the member governments decide matters pertaining to their relationships and to the general action and policy of the Organization;
2. The Meeting of Consultation of Ministers of Foreign Affairs, held to consider problems of an urgent nature and of common interest to the American republics and to adopt decisions in matters covered in the Inter-American Treaty of Reciprocal Assistance; it is assisted by an Advisory Defense Committee, composed of the highest military authorities in the member countries and meeting whenever it is considered advisable to study questions of collective self-defense;
3. The Council of the Organization, with headquarters in Washington, composed of one Representative of each member nation especially appointed by the respective governments, with the rank of Ambassador, its function being to supervise the progress of the Organization, acting either directly or through the following technical organs:
Inter-American Economic and Social Council, with permanent headquarters at the Pan American Union, in Washington;
Inter-American Council of Jurists, and the Inter-American Cultural Council, the latter two meeting periodically at places chosen by themselves;
4. The Pan American Union, the central and permanent organ of the Organization, with headquarters in Washington, which performs the duties assigned to it in the Charter of the Organization and such other duties as are assigned to it in other inter-American treaties and agreements;
5. The Specialized Conferences, meeting to deal with special technical matters or to develop specific aspects of inter-American cooperation;
6. The Specialized Organizations, inter-governmental organizations established by multilateral agreements to discharge specific functions in their respective fields of action.

Officers of the Pan American Union: Secretary General—Alberto Lleras (Colombia); Assistant Secre-

tary General—William Manger (United States); Director, Dept. of Economic and Social Affairs—Amos E. Taylor (United States); Director, Dept. of International Law and Organization—Charles G. Fenwick; Director Dept. of Cultural Affairs—Jorge Basadre (Peru); Director, Dept. of Administrative Services—Lowell Curtiss (United States).

Events, 1948, etc. On April 14, 1890, representatives of the American republics meeting in Washington at the First International Conference of American States adopted a resolution creating what is today the Pan American Union. This international organization's object was to foster mutual understanding and cooperation between the nations of the Western Hemisphere. Since that time, successive Pan American conferences have greatly broadened the scope of work of the Pan American Union, new specialized inter-American agencies have been created, and it gradually became evident that the effective operation of the full-grown inter-American system called for greater integration of its various parts.

This led to the adoption on Apr. 30, 1948, by the Ninth International Conference of American States, at Bogotá, Colombia, of the Charter of the Organization of American States, a significant step in inter-American relations because it coordinated the work of all the former independent official entities in the inter-American field and defined their mutual relationships. The Organization of American States serves the cause of the United Nations as a regional agency devoted to the pacific settlement of disputes in the Western Hemisphere and to the promotion of inter-American understanding.

With the signing of the Pact of Bogotá at the Ninth Conference, the Pan American Union was designated as the central organ and general secretariat of the Organization. The functions of the Union in relation to the other organs of the system were greatly enlarged and more clearly defined, and provision was made for an augmentation of its office facilities to permit it to discharge all its duties efficiently. Four administrative departments were set up to deal with matters falling in the following fields: economic and social affairs; international law and organization; cultural affairs; and office services. The Directors of the first three of these departments were made, ex officio, Executive Secretaries of the corresponding organs of the Council, i.e., the Inter-American Economic and Social Council, the Inter-American Council of Jurists, and the Inter-American Cultural Council, for greater coordination of the work in these fields.

The Pan American Union serves also as the permanent secretariat of the Inter-American Conferences, the Meetings of Consultation of Foreign Ministers, and the Specialized Conferences. It acts as adviser to the Council and its organs in the preparation of programs and regulations for these conferences, offers technical assistance and necessary personnel to the governments of the countries in which they are held, acts as custodian of documents and archives of the conferences, as well as depository of instruments of ratification of inter-American agreements, and submits reports to the Council and to the inter-American conferences on work accomplished by the various organs.

In addition to these duties to the member governments and their official agencies, the Pan American Union renders a wide variety of services through its information offices to the citizens of the American republics. It answers inquiries on every conceivable phase of life and culture in the Americas received from individuals and associa-

tions, secures needed material and information on request, makes arrangements to bring together persons and institutions with like interests, and in general serves as a clearing house for information on all the member countries.

The Secretary General and the Assistant Secretary General are elected by the Council of the Organization, for ten-year terms. The Secretary General appoints the Department Directors, as well as the lesser personnel of the Union. The Council approves the annual budget for the Organization, which is financed by quotas contributed by the member governments.

PACIFIC ISLANDS, Trust Territory of the. The territory in the Pacific, formerly mandated to Japan by the League of Nations in accordance with the Treaty of Versailles, 1919 (see below under *Government*). It comprises some 2,140 islands, islets, atolls, and reefs, extending over an area 1,200 miles north to south and 2,500 miles west to east. There are three main groups: (1) Marianas (less Guam), 11 islands, including Saipan, Tinian, Rota; (2) Carolines, 577 islands, including Yap, Koror, Pelelieu, Angaur, Truk, Ujae, Pohnpei, Kusaie; (3) Marshalls (60 islands), including Kwajalein, Majuro, Bikini, Eniwetok, Rongerik, Ujaelung. The total land area of the Trust Territory is 715 statute square miles and the total over-all area of land and water is 3,121,722 nautical square miles.

Population. The indigenous population is of the Micronesian race, except on a few islands inhabited by Polynesians, a race closely akin to the Micronesian. At least three different dialects are spoken in different parts of the Trust Territory. Total population (1948): 51,532. Population by districts: Saipan 6,074; Marshalls 10,544; Ponape 9,591; Truk 14,368; Palau 10,956.

Education. In 1948 there were 148 public schools in the Trust Territory with a total of 9,411 students. Enrollment in the district teacher training schools totaled 313.

Health. During 1948 a total of 75 dispensaries, with a capacity of 382 beds were maintained for the use of the indigenous people. Schools for medical practitioners, dentists, and nurses are maintained on Guam. A medical officer makes regular inspection trips to each island to administer treatments and to supervise the work of the local medical practitioner. Persons requiring hospitalization are transported to district headquarters or to Guam by ship. In 1948 a medical survey ship, the U.S.S. *Whitby*, was assigned to the territory. This floating clinic, which is now proceeding from island to island in the area, makes possible the accomplishment of chest X-rays for all islanders and other examinations of health and sanitation conditions on even the most remote island.

Production and Trade. The natural resources of the Trust Territory are meager and for the most part the soil is unproductive. Because of the remote location and distances involved in inter island shipping the problem of sea transportation is acute. An effort is being made to revitalize the island economy. Principal products for export are: copra (dried coconut), handicraft, trochus shells, and phosphate. Exports for the first 9 months of 1948 were valued at \$1,771,710; imports at \$804,581.

Government. In World War II, beginning in early 1944, the islands comprising what is now the Trust Territory were either wrested from the Japanese military forces or were isolated from further effective participation in the war. From the time of the expulsion of the Japanese until July 18, 1947, these islands were under military government ad-

ministered by the U.S. Navy. On that date the President of the United States approved the trusteeship agreement between the United States and the Security Council of the United Nations for the Trust Territory of the Pacific Islands (former Japanese mandate). The President, also on July 18, by Executive Order 9834, transferred to the Secretary of the Navy the responsibility for the civil administration of the Trust Territory, on an interim basis and until such time as a civilian department or agency should be designated to have permanent supervision of the government of the area. Pursuant thereto Admiral Louis E. Denfeld was commissioned as U.S. High Commissioner of the Trust Territory and Rear Admiral Carleton H. Wright was appointed Deputy High Commissioner. The present seat of government for the Trust Territory is at Guam. The Trust Territory for purposes of administration has been divided into the following districts: Saipan, Kwajalein, Majuro, Ponape, Truk, Yap, and Palau. In so far as possible, consistent with the fundamental principles of democracy, the indigenous people of the area have been encouraged to retain their traditional forms of government and to assume responsibility for the conduct of their own local affairs. Legislation to provide an organic act and local citizenship for the Trust Territory was submitted to the Congress of the United States in 1948 but no action was taken.

PAKISTAN. A self governing dominion of the British Commonwealth of Nations, Pakistan was constituted on Aug. 15, 1947, in accordance with the Indian Independence Act passed by the British Parliament on July 18, 1947. The Dominion consists of two blocks of territory separated by 700 miles of the territory of the Union of India. The section in northwest India includes the former provinces of Sind, Baluchistan, Northwest Frontier Province, and West Punjab. The northeastern region includes East Bengal and the Sylhet District of Assam. Capital, Karachi.

Area and Population. Pakistan includes about 361,007 square miles, or almost one fourth of the area of undivided India. The population is estimated at 70 million, of whom some 50 million are Moslems, 19 million Hindus, and the remainder Sikhs and others. Chief cities (1941 census): Lahore, 671,659; Karachi, 359,492; Dacca, 213,218. Education is not advanced and the percentage of illiteracy is high.

Production. The country is essentially agricultural, with an export surplus in normal times. Rice acreage is 26 million, yielding 9 million tons; wheat acreage 10 million, yielding 3.5 million tons. Cotton, much of which is long staple, is estimated at 1.4 million bales for 1948-49. Annual production of hides and skins is about 9 million pieces.

The industry of Pakistan was dislocated by partition. The country has three fifths of the jute production of undivided India but no jute mills. The textile industry includes 13 spinning and weaving mills and one small cooperative mill, with a capacity estimated at 100,000 bales in 1948. Pakistan has no steel or paper plants. Coal is inadequate, but there are potential petroleum and water power resources. Power is lacking for the establishment of the 27 industries proposed by the Industries Conference of December 1947.

Foreign Trade. Statistics are available only for the port of Karachi. The totals for the first 5 months of 1948-49 showed exports at 305.8 million rupees and imports at 301.6 million, giving a slightly favorable balance of trade. This made it possible to grant licenses for the import of woolen goods,

hardware, and electrical appliances from the United States.

Transportation. Pakistan has a railway mileage of 15,542 and a highway mileage of 49,863. By an agreement with India signed June 23 Pakistan was given two air lines, Orient Airways and Pak Air. Passenger and cargo maritime services from Pakistan ports were begun by British companies in 1948.

Finance. The State Bank of Pakistan came into operation July 1, 1948, to act as Government banker and to control the currency and foreign exchange. Indian currency remained legal tender until September 30, at which time Pakistan notes were required. Subscriptions to Government loans to May 24 were 420 million rupees.

Government. The legislative body remains that at the time of partition, the Constituent Assembly. Governor General to September 11, Quaid-i-Azam Mohamed Ali Jinnah (See *Events* below); after November 12, Khwaja Nazimuddin, acting Governor General in the preceding two months; Prime Minister, Minister of States and Defense, Liaquat Ali Khan.

Events, 1948. Pakistan, like its sister dominion of India, lost a revered leader in 1948. On September 11 the first Governor General, Mohamed Ali Jinnah, died unexpectedly in Karachi at the age of 71. After breaking with the Congress Party in 1921 Jinnah worked actively for the Moslem cause and in 1940, at the annual meeting of the Moslem League, he proposed an autonomous Moslem state comprising all the provinces of India with Moslem majorities. He became the first Governor General of Pakistan on Aug. 15, 1947, and in March 1948, he resigned as chairman of the Moslem League.

Dispute with India. In several other ways the year was a troubled one for Pakistan. The dispute with India over Kashmir, the northern province populated largely by Moslems whose Hindu ruler agreed to join India, remained serious throughout the year.

Recommendations of the United Nations Security Council early in the year for a neutral administration in Kashmir, the conduct of a plebiscite and Pakistan's withdrawal of fighting tribesmen from the area produced little result. A United Nations commission was sent to the area; on August 13 it proposed a cease-fire agreement to the Prime Ministers of Pakistan and India and suggested consultation about the arrangements for a plebiscite.

No progress was made, and the fighting appeared to increase in intensity. Conferences between the Prime Ministers of the two Dominions at the time of the Conference of Commonwealth Prime Ministers in London in October also had no visible effect. The United Nations Security Council's Kashmir Commission, rendering its report on November 22, admitted that it had "temporarily exhausted" the possibilities of negotiation, but added that its work would go on. The Commission took note of India's acceptance of its August 13 proposals while Pakistan attached conditions.

On December 15, at the end of an inter-Dominion conference, the two Dominions announced substantial agreement on a number of subjects, excluding Kashmir. Another conference was scheduled for Jan. 10, 1949.

Refugee Problems. Information released about the conference made no mention of the large movements of refugees still going on, particularly the evacuation of more than a million Hindus from East Bengal in Pakistan to West Bengal in India. Such migrations had caused great difficulty and hardship since movements of religious groups be-

gan immediately after independence was attained on Aug. 15, 1947. Pakistan maintained that the migration from East Bengal occurred in part because of pressure from groups in India.

After Pakistan had tried for a year the method of dealing with the refugee problem in West Punjab at the provincial level, it was decided that the Dominion Government should use its emergency powers. One of the last acts of Governor General Jinnah was to invoke these powers on August 27 because "the economic life of Pakistan was threatened." West Punjab had resettled nearly 5 million Moslem refugees, but at the cost of great overcrowding and some opposition from the residents of the already crowded areas.

The Dominion Government, through the Central Refugee Council, at the end of August ordered the various provinces and states to take assigned numbers of refugees, thus relieving West Punjab. In the province of Sind, which was dominated by big landlords, opposition was particularly vigorous, but the growing prestige of the Government and the Moslem League indicated that the program could be carried through.

Economic Problems. The problems and plans of a country whose viability was doubted in India, now that many of its enterprises had been truncated by partition, occupied a large share of the attention of the Government. "Pakistan," wrote the London *Times* correspondent in Pakistan on August 16, "is a paradise for planners. . . . Five and 10-year plans for vast hydro-electric schemes, coal mines, oil fields, shipbuilding yards, even model chicken farms which will guarantee every Pakistani his morning egg are envisaged. . . . The air in Karachi is made heady and exhilarating with such dreams and hopes."

An important statement on industrial policy, issued on April 2, contained an invitation to foreign capital to come to Pakistan, with the opportunity of subscribing 51 percent of the capital in some industries and 30 percent in others. Assurance was given that a "reasonable proportion" of profits could be taken home. With the central government as the chief planning agency, encouragement was to be given particularly to the fabrication of jute, cotton, and hides and skins.

The April announcement was further clarified on September 13, when the Pakistan Government published a communiqué interpreting "reasonable proportion" (of profits) as meaning that no restriction would be imposed except the usual limitations on foreign exchange transactions. It was also explained that the minimum Pakistan capital prescription did not apply to existing business or to foreign companies engaged in trading only.

Daily life in the Pakistan territory had its dreary side, even while the Government's ambitious plans found approval. In May only about one-half of the country's requirements of 1,000 million yards of cotton cloth was on hand. Pakistan's sugar production of 25,000 tons was one-tenth of the amount needed by householders. Shortages of coal, petroleum, iron, and steel caused delays and stoppages in transportation. Even the granary of India, West Punjab, which was beset by floods in 1948 and the influx of millions of refugees, had to ask, through the Dominion Government, for 60,000 tons of grain from the United Nations Food and Agriculture Organization.

—ALZADA COMSTOCK

PALESTINE. A former British mandate (10,640 square miles) at the eastern end of the Mediterranean, with an early 1948 population of about two million, two-thirds Arab (mostly Sunni Moslem) and

one-third Jewish. Chief cities: Jerusalem (originally capital), Haifa (port and oil pipe-line terminal), Tel Aviv (port, largest Jewish city in the world), and Jaffa (port).

For information on British mandatory government and communications and education before 1948 fighting, see *YEAR BOOK, EVENTS OF 1947*. For details of 1948 United Nations deliberations and Palestine fighting see the *Middle East Journal* quarterly chronology. (See also *ARAB LEAGUE AFFAIRS*, *ISRAEL*, *UNITED NATIONS*, and articles on Arab countries in this Year Book.)

Production. In spite of a serious water shortage Palestine has been primarily an agricultural country, thanks to good irrigation and subterranean water supplies. Citrus growing is highly developed (1948-49 crop was 7 million boxes, less than half the last prewar crop, because of the fighting) with other fruits, grains, vegetables, and olives also grown. Pond, lake, and sea fish are an important product. Industrial production developed with the advent of large numbers of Jewish immigrants and Jewish capital and received a tremendous impetus during the recent world war which cut off outside supply sources. Although Arab manufacturing concerns are small and limited, Jewish industry ranges from the Palestine Electric Corporation and the Palestine Potash Company holding the Dead Sea concession (with apparently inexhaustible supplies of potash, bromine, magnesium, common salt, etc.) to Haifa oil refineries, leather and metalwork factories, and the new rapidly growing diamond-polishing business. The figures of electric power production in thousands of kilowatts provide an index of the growth: 1939 77,227; 1946--209,230; 1947--256,826.

Foreign Trade. Principal exports include citrus fruits (four-fifths of total), cereals, olive oil and other food, wool, hides and skins, gas oil and fuel oil, polished diamonds, and a number of articles, mainly manufactured, including clothes, machinery, novelties, and leather. Imports include wheat, food, furniture, textiles, building materials, coal, and machinery. Over the war years other Middle Eastern countries provided a third to over a half of the imports and absorbed a third to over half of Palestine's exports--a significant factor in any post-partition economic arrangements. Other exports went to the United Kingdom, the United States, and other countries, and imports came from the United Kingdom, the United States, and other countries. In the first nine months of 1947 exports amounted to £P21 million, and imports £P67 million. Both imports and exports had risen since 1946 and the prewar years.

Finance. For the fiscal year 1946-47 government revenue totaled £P25,716,636 (a steady increase since 1939), whereas expenditure amounted to £P22,547,025 (an increase since 1939 except for a 1945-46 drop). Currency in circulation in November, 1947 totaled £P40,958,000. The wholesale price index in November, 1947, stood at a high of 357 (1939 = 100), having been 336 a year earlier. The Palestinian pound was equivalent to the pound sterling. By the year's end no announcement had been made of the reentry of all or part of Palestine to the sterling bloc or of the allocation of Palestine's sterling balances in London.

Events. UN Activity following Partition. The United Nations' November, 1947, vote for Palestine partition between Arabs and Zionists, its first unequivocal decision on a world problem, was made possible by active American and Soviet support in the face of the opposing opinions and votes of the

Middle Eastern states from Greece to India and Turkey to the Yemen. The UN Palestine Commission, charged with setting up the provisional governments, held its first meeting on Jan. 10, 1948, with Denmark, Panama, Bolivia, Czechoslovakia, and the Philippines represented. But a week later the Palestine Arab Higher Committee rejected Arab representation on the Commission. By the middle of February the Commission had to call for prompt UN Security Council action in providing armed assistance "which alone would enable the Commission to discharge its responsibilities." Within a week after its March arrival in Palestine the Commission's Secretariat stated there was insufficient agreement to make peaceful implementation of partition possible.

When the UN Security Council considered the question in the middle of February American concern over the threat to peace was stronger than its interest in creating a Zionist state. This concern was reflected in: (1) the American Delegate's February 24 statement that any Council action must be directed only to preserving peace and not to enforcing partition; and (2) his March and April efforts in behalf of trusteeship (opposed by the Soviet Union) and a recall of the Assembly to consider a new solution.

An April 14 Security Council resolution advocating a military and political truce was accepted by the Arabs with provisos. The Jewish Agency, objecting to all major points, presented other recommendations which the Arabs refused. As the result of a Council vote of 9 to 0 (Soviet Union abstaining) a special meeting of the UN General Assembly convened on April 16 and discussed various suggestions including the trusteeship proposal, cease-fire orders, plan for administering Jerusalem, and British suggestions for carrying on essential administrative services after their withdrawal.

British Withdrawal. These UN debates were reflecting the developing crisis in Palestine. Immediately following the partition vote both Jews and Arabs mobilized and December clashes mushroomed into fighting and bombing. Having announced that its mandate would end May 15, Great Britain was faced with the twofold task of maintaining security while withdrawing its personnel, including troops. Evacuation of British administrative personnel, starting in March, was accompanied by the suspension of mail, money orders, and all insured services.

Following the death of 30 British soldiers in a train explosion the Palestine government issued an official statement condemning the Jewish Agency for condoning terrorism. By April the fighting was full-fledged, significant among the battles being those for the Old City of Jerusalem and the Jerusalem-Tel Aviv road. Fighting in Jaffa at the end of April was ended under threats of force, but by May 13 the former Arab city was an open city policed by Hagannah. On May 15 the British High Commissioner left, thereby ending the British Mandate. The State of Israel was declared and immediately recognized by the United States, and two Egyptian columns invaded Palestine.

UN Mediation. After the Assembly disbanded the Palestine Commission, the Big Five on May 20 unanimously agreed to appoint Count Folke Bernadotte UN Mediator for Palestine. Two days later the Council voted a resolution urging "all governments and authorities" to abstain from "hostile military acts" in Palestine. Egyptian and Jewish planes went into action, and the seven Arab League nations initially rejected the cease-fire order on

the basis that it would only give advantage to Jewish "terrorist bands." However, as the UN Mediator arrived in Palestine, both Arabs and Jews accepted the Council's request for a four-week cease-fire order under threat of UN sanctions. On June 9 both sides unconditionally accepted a truce to start June 11. After four days of truce the Mediator, reporting occasional violations, expressed satisfaction with its effectiveness and began informal conferences with leaders of both sides.

On June 28 the Mediator submitted tentative proposals to Israel and the Arab states, including the following: (1) A Palestine union embracing Transjordan to be composed of two states; (2) Israel and the Arab state each to exercise full control over their own domestic and defense problems; (3) both states to solve mutual economic and defense problems through a Central Council; (4) immigration to be within the competence of each state, subject to the Central Council's review after two years; (5) Jerusalem to be under Arab rule, subject to some local government by a municipal council representing the 100,000 Jews there; (6) the Arabs to receive part or all of the Negeb (southern triangle); (7) the Jews to receive part or all of Western Galilee; and (8) Haifa to be a free port and Lydda a free airport.

Before a week passed both Arabs and Jews rejected the proposals. In spite of the Mediator's efforts toward extension the cease-fire order expired on July 8 and fighting started again. An additional ten-day armistice was refused by the Arabs. While the Mediator discussed the situation with the Security Council, the Council's Truce Commission, consisting of the consuls in Jerusalem of France, Belgium, and the United States, reported Jerusalem's international character was gravely threatened by Israeli actions and statements. The Council voted a truce and cease-fire resolution to which both Arabs and Israelis agreed, effective July 18. Two days after an Israeli-Arab signing of a boundary agreement establishing the limits of Jerusalem's Arab and Jewish areas, Israel's General Zionist Party adopted a resolution demanding that Jerusalem be included in Israel. Much UN discussion followed on both the demilitarization of Jerusalem and its eventual status. Although on September 2 both Jews and Arabs agreed to another cease-fire, on September 9 Israel rejected the Mediator's proposals for gradually broadening Jerusalem's demilitarization. Reports of truce violations by both sides poured in and firing broke out in Jerusalem again. Then, on September 17, UN Mediator Bernadotte was shot and killed by an unknown Zionist terrorist.

Bernadotte's Final Report. Immediately following his death the General Assembly released the Mediator's final report which said, among other things: (1) Peace must be restored by any means possible; (2) Israel exists, and there are no sound reasons for assuming it will not continue to do so; (3) the original partition boundaries must be revised to produce "geographical homogeneity"; and (4) displaced persons must be assured the right to return home, or adequate compensation if they cannot or will not return. Suggested territorial changes included: (1) the Negeb to be Arab territory; (2) Galilee to be Israeli territory; and (3) Jerusalem to be under UN control.

The U.S. Secretary of State announced full support of these recommendations, as did Great Britain. However, Israel opposed any plan separating any part of the Negeb from the state of Israel. Another UN Security Council cease-fire order, effective October 22, theoretically accepted by both Egypt and Israel, was accompanied by well-

planned Israeli attacks on Iraqi and Egyptian bases. Israel refused to withdraw from areas under its army's control, but finally decided on a cease-fire as of October 31. As Egyptian troops withdrew, UN observers reported Israel forces in Lebanon to a depth of two to three miles. A November 4 Council resolution called upon Egypt and Israel to withdraw from positions taken since October 14, to conduct direct negotiations, and to establish permanent truce lines and neutral zones. Egyptian troops continued to withdraw but Israel announced it awaited proposals for new military lines in the Negeb before taking action on the resolution. More UN discussions followed as to neutral zones and Bernadotte's final plan. A November 30 armistice providing for a "complete and sincere cease-fire" in Jerusalem was signed by Arab and Israeli commanders.

UN Conciliation Commission. In early December the Assembly gave a new Conciliation Commission a free hand to work out a permanent settlement, but without military power to impose that settlement. As of December 21, with the air still tense and stormy, UN observers were reduced from 350 to about 200. Only about 60,000 Arabs remained in Israel, but the latter's population was being increased by nearly 25,000 Jewish immigrants monthly. Israel officials refused permission for entry into certain strategic areas by either UN observers or newsmen. On December 23 UN observers reported a full-fledged Israeli offensive. A British charge of Israeli invasion of Egypt produced a December 29 cease-fire order by the Security Council.

Refugees. One of the ironies of the situation was the displacement of hundreds of thousands of Arabs by the establishment of a Zionist state, intended to provide a home for European Jewish refugees (175,000 as estimated by an International Refugee Organization official in the summer). By early May 175,000 to 200,000 Arabs were reported to have fled from Zionist-occupied areas. As all the Arab governments attempted to alleviate their plight, Israeli Foreign Minister Moshe Shertok, disclaiming Israeli responsibility for their departure, announced in August that Israel would discuss their return only as part of the final peace treaty. Shortly following a substantial British gift of medical supplies and tents the UN Mediator requested help for 337,000 refugees.

On October 29 the UN International Childrens' Emergency Fund voted six million dollars for Arab aid. By December 11 there were at least 700,000 refugees, most of them destitute. A UN Palestine refugee organization was set up under the direction of American Ambassador to Egypt Stanton Griffis, with the American and International Red Cross and the Society of Friends participating. The International Refugee Organization was scheduled to consider the problem at its January meeting.

—DOROTHEA SEELYE FRANK

PALMYRA ISLAND. An atoll in the Pacific (5° 5' N. and 162° 5' 55" W.), 960 miles south by west from Honolulu and 382 nautical miles north of the Equator. It comprises 52 small islets having a total area of 250 acres. By Executive Order dated Dec. 19, 1940, Palmyra Island was placed under the control and jurisdiction of the Secretary of the U.S. Navy. The island is an important station on the Hawaii-Samoa air route. On May 12, 1947, the Supreme Court of the United States in *U.S. v. Fullard-Leo*, held that title to Palmyra Island is vested in the Fullard-Leo family by reason of a grant in favor of their predecessors in title from the government of Hawaii before United States annexation.

PANAMA. A republic of Central America. The land west of the Canal is a highland range; a second mountain range follows the shore of the Caribbean, and a third is in the southwest. The Caribbean coastland is humid and hot; along the Pacific coast the climate is healthier.

Area and Population. Area: 28,576 square miles. Population (excluding the Canal Zone which had 47,352 inhabitants in 1947): 701,000 (1947 est.); of whom 65 percent were mestizos, 13 Negroes, 11 of European descent, 9 Indians, and 2 percent members of other ethnic groups including Asiatics. Chief cities: Panamá (capital), 111,893 inhabitants in 1940, Colón, and David.

Education and Religion. The constitution guarantees freedom of worship. Roman Catholicism predominates. Only about 70 percent of the population excluding Indians is literate. In the school year of 1947-48, there were 812 elementary schools and 47 pre-schools with a total enrollment of 92,707. At the same time 9,336 students attended secondary schools, and 1,219 the University of Panama.

Production. Panama is predominantly agricultural, 53 percent of the gainfully employed being engaged in agriculture. The economic life of the country is influenced by and dependent upon the commercial life of the Canal Zone. Principal commercial crops (with 1947 production figures) are: abaca fiber, 11,455,625 lb.; bananas, 3.5 million stems (5 million in 1946); cacao, 5,138,186 lb., with the 1948 production expected to approximate that of 1947. Chief food crops are: rice (1947), 1,151,042 quintals (of 101.43 lb.); corn, 85,600,000 lb.; sugar, 171,000 quintals; coffee, 2,500,000 lb.; and coconuts, 18 million. At the end of 1947 there were 563,956 heads of cattle and 183,487 hogs.

Industrial production is limited to consumer goods, of which the most important are beverages (21,057,314 liters in 1947); distilling (1 million liters rectified alcohol); footwear (325,000 pairs); evaporated and condensed milk (55,000 cases); and soap (11 million lb.).

Foreign Trade. Panama is a net importer of goods and services, the major source being the United States. Imports in 1948 (10 mos. actual, 2 mos. est.) were valued at 66.36 million balboas (balboa equals one U.S.\$); exports at 7.68 million balboas. The comparative figures for 1947 were \$75,568,225 for imports; \$8,349,408 for exports.

Transportation. There are 531 miles of railroad of which 134.7 are in the Canal Zone; and 1,090 miles of different types of roads. Shipping under Panamanian registry totaled 500 ocean-going vessels (2 million gross tons) on Dec. 31, 1946. By October, 1947, it had increased 50 percent. Air service is rendered by important international lines; daily services operate between Panama and New York, and connect with other South and Central American countries.

Finance. The budget for 1948 estimated expenditure at \$34,638,742; revenue at \$33,138,974. Of this budget, \$7 million will go to Education and nearly half a million for the construction of a University City. The public debt on June 30, 1947, was \$23,468,029 compared with \$19,898,469 on Dec. 31, 1946. Currency in circulation at the end of 1947 was 82.6 million balboas; bank deposits 32.6 million balboas.

Government. Under the constitution of 1946 (the third since 1903), Panama is an independent republic of nine provinces and one *Intendencia*. The legislature is a unicameral National Assembly of 32 Deputies elected for 6 years; Executive power

is vested in a President (elected for 6 years) assisted by a Cabinet of 7 Ministers. On Oct. 1, 1948, Domingo Díaz Arozamena was inaugurated as President. (See Events below.)

Events, 1948. The year was one of high political tension. Elections were held and results were contested. The question relating to the return of the United States bases still attracted public attention; while the general unrest that prevailed throughout Central American nations perturbed the Government of Panama.

Campaign Highlights. In January, there were already six names mentioned as candidates for the elections to be held on May 8. Most important were ex-president Arnulfo Arias Madrid, backed by the *Partido Nacional Revolucionario (Auténtico)*, and Domingo Díaz Arozamena, nominated by the *Unión Liberal*. In February, Arias' nomination was challenged before the National Electoral Jury on technical constitutional grounds. He was considered such a strong candidate that his opponents felt it important to eliminate him. In March, some of the minor candidates waived their nominations and their parties decided to back Arias. Political tension was later aggravated by the attempted assassination of the attorney representing the case against Arias.

Outcome of Elections. The elections were held on May 9, with early reports indicating Arias' victory. Reportedly, a large number of women cast their ballots for him. On May 28, Arias was said to be ahead of Arozamena, 73,459 to 71,897, but these results were not considered official since the National Electoral Jury had not as yet decided upon Arias' eligibility. Many other cases were filed claiming fraud in several electoral districts. The stalemate was prolonged for nearly two months, and clashes occurred between the followers of Arias and of Arozamena. Arias took refuge in the Canal Zone, stating that the government, together with his opponents, was plotting to "steal his victory."

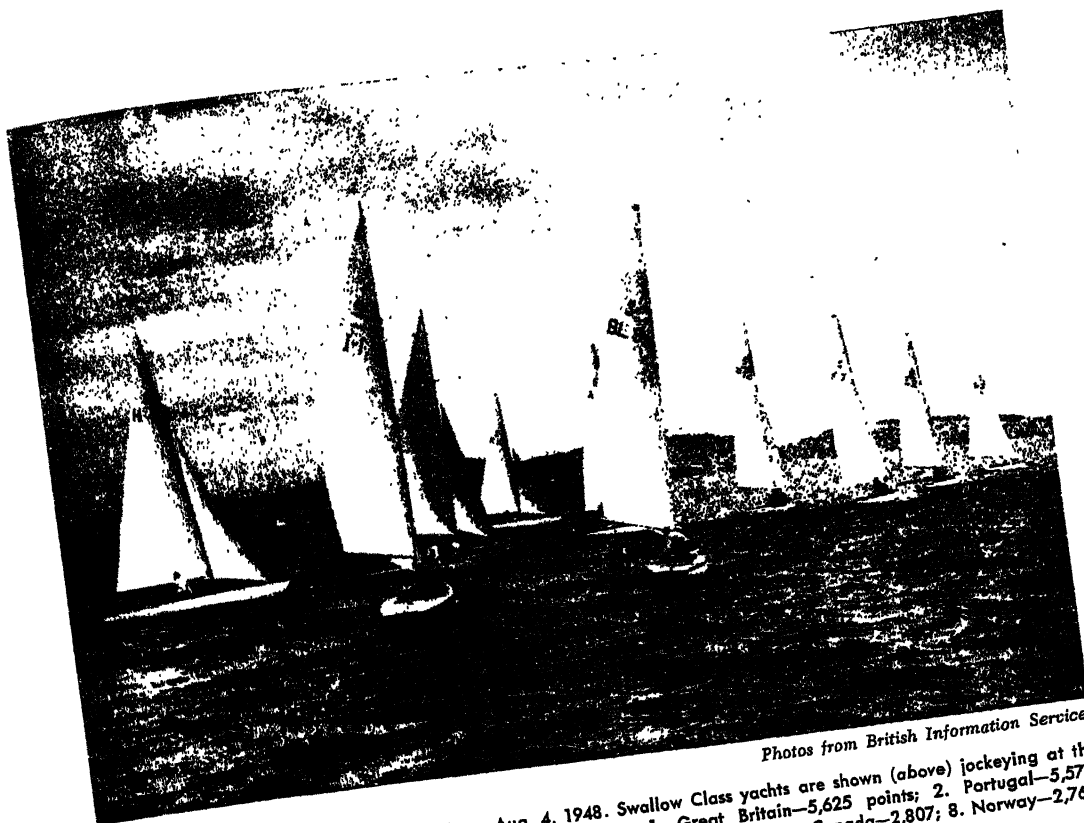
Arozamena's Legal Victory. The National Electoral Jury finally rendered a decision in favor of Arozamena, who had won, according to them, by 1,116 votes. Arias refused to accept the decision and departed for Colombia. Arozamena took office on October 1, outlining the following program: (1) continuation of the policies of President Jiménez - stressing good relations with the United States, but always defending the sovereignty of Panama; (2) expansion of education, development of agriculture, and commerce; (3) intensive public-works program and fulfillment of all international economic obligations. Political circles expected President Arozamena to meet with difficulties in Congress, since none of the political parties had a majority.

International Front. Early in the year, the question of the return of United States bases to Panama was still pending. The American Government returned 11 of the 13 bases and promised to return the last two at a later date. Another issue was raised as a result of the civil war in Costa Rica. Many citizens of that country entered Panama, and the Government was forced to station troops near the border.

Panama attended the Ninth Inter-American Conference of American States held at Bogotá in April (see PAN AMERICAN ACTIVITIES), and became signatory to the Charter of the Americas.

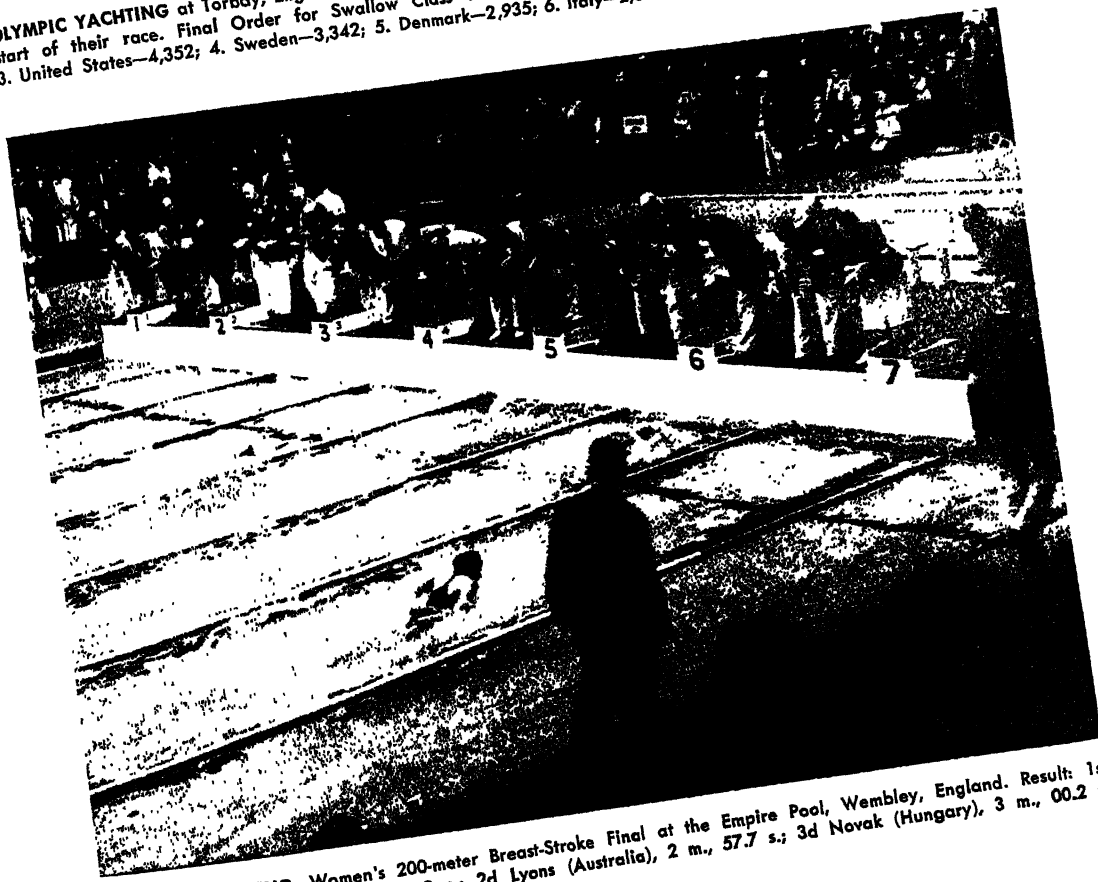
—MIGUEL JOURNIN

PANAMA CANAL ZONE. A strip of land crossing the Isthmus of Panama and extending about five miles on each side of the center line of the Canal and three marine miles beyond low water mark in the



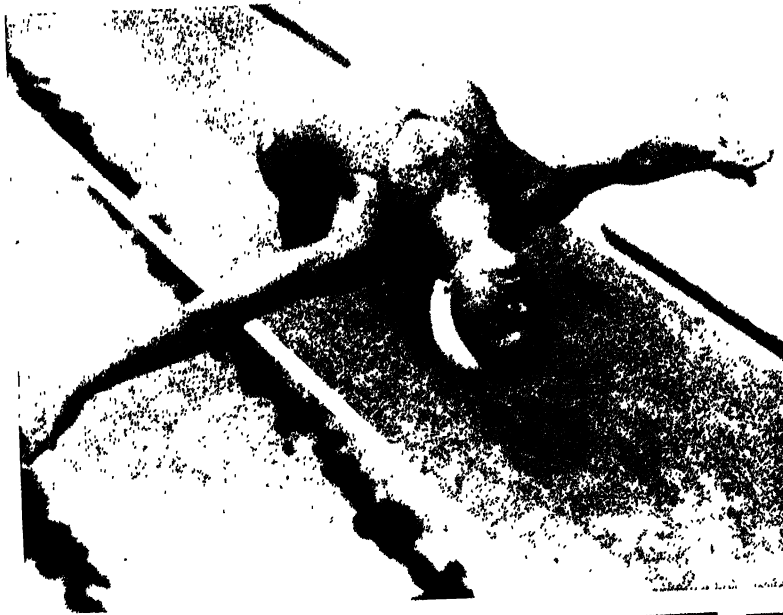
Photos from British Information Services

OLYMPIC YACHTING at Torbay, England, on Aug. 4, 1948. Swallow Class yachts are shown (above) jockeying at the start of their race. Final Order for Swallow Class Yachts: 1. Great Britain—5,625 points; 2. Portugal—5,579; 3. United States—4,352; 4. Sweden—3,342; 5. Denmark—2,935; 6. Italy—2,893; 7. Canada—2,807; 8. Norway—2,768.



OLYMPIC SWIMMING: Women's 200-meter Breast-Stroke Final at the Empire Pool, Wembley, England. Result: 1st Van Vliet (Netherlands), 2 m., 57.2 s.; 2d Lyons (Australia), 2 m., 57.7 s.; 3d Novak (Hungary), 3 m., 00.2 s.

Photo from European



◀ **WOMAN DIVING** star Mrs. Vicki Manuelo Draves arches smoothly in the air at Wembley. Mrs. Draves, who started doing this kind of thing when she was sixteen, won the Olympic springboard diving championship in 1948, at the age of twenty-three.

▼ **NETHERLANDS HOUSEWIFE** Mrs. Fanny Blankers-Koen winning the Olympic 80-meter hurdle final at Wembley, England. She won two other Olympic finals and assisted in winning the 400-meter relay final.

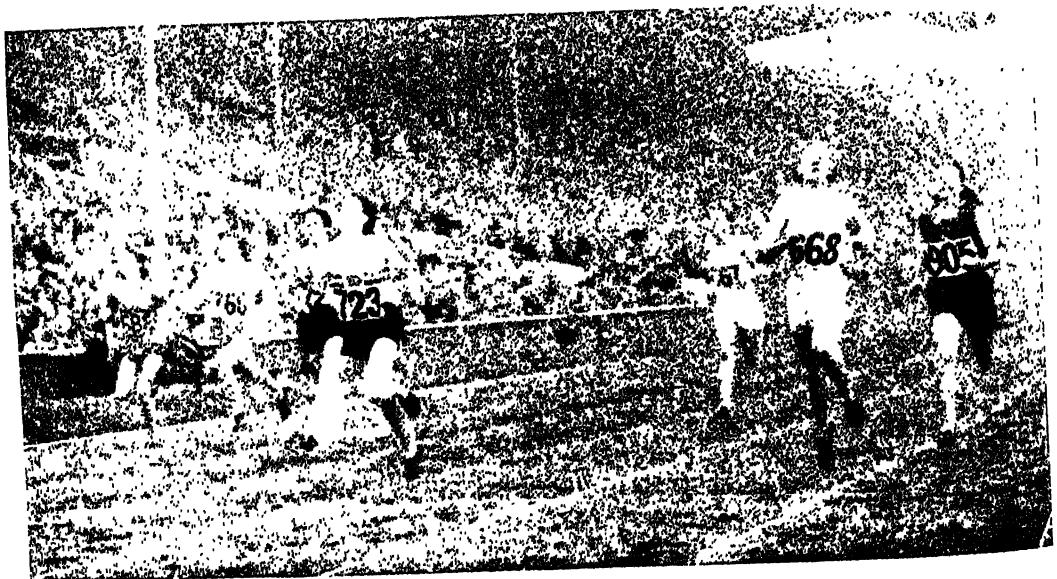
Wale World Photo

► **DISCUS CHAMPION.** M. O. M. Ostermeyer of France in action at Wembley, England, where she won the Olympic discus event with a throw of 41.92 meters.



▼ **IN A DEAD HEAT**, women Olympic stars come across the finish line at Wembley in the semi-final of the Women's 200-meter dash. Ladies S. B. Strickland (No. 668, from Australia) and A. D. Williamson (No. 723, Great Britain) finished in a first-place tie.

British Information Services Photos





CZECH WINS. (Top left) E. Zatopek winning the Olympic 10,000 meter run at Wembley Stadium, England, in the record Olympic time for this great event of 29 min. 59.6 sec.



◀ **FINAL 400 METERS RELAY.** H. Dillard (U.S.A.), handing over to M. E. Patton (U.S.A.) during the 400 meters relay final in the XIV Olympiad.

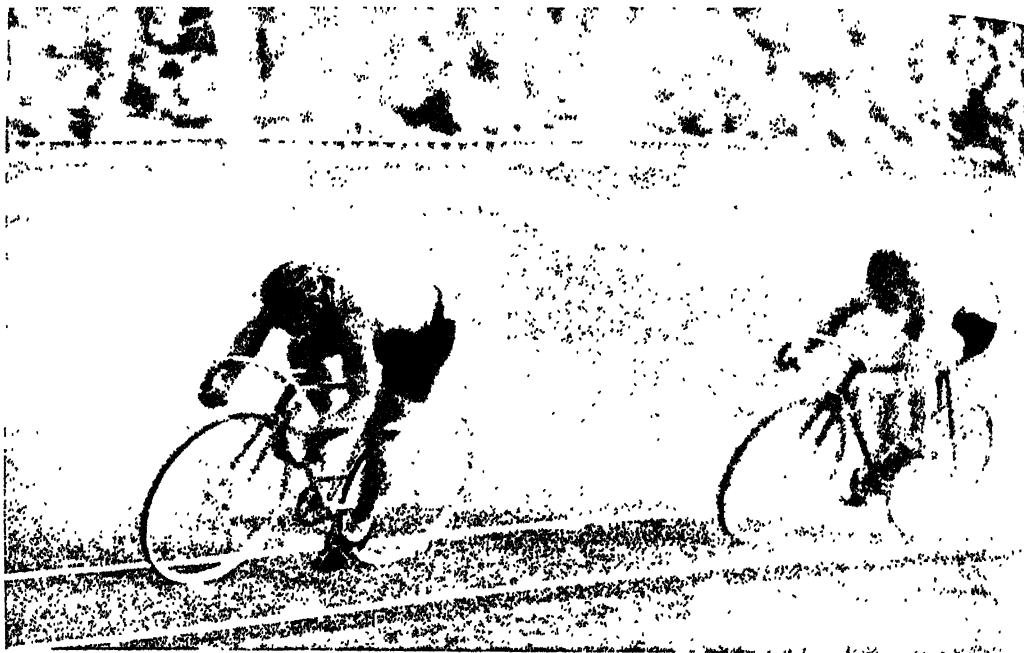


DECATHLON WINNER. R. B. Mathias (U.S.A.) who won the Decathlon with 7,139 points, shown (at right) throwing the discus. He became the Olympic Champion—"World's No. 1 All-round Athlete." ▶

*Photos from
British Information Services*

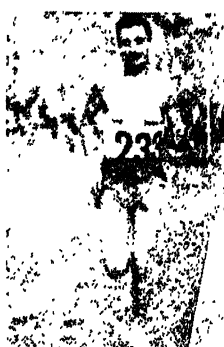
800 METERS RECORD. (Extreme right) Near the finish of the Olympic 800 meters final. Winner: Whitfield (136), U.S.A., time 1 min. 49.2 sec. 2d: Wint (122) of Jamaica, British West Indies, time 1 min. 49.5 sec.





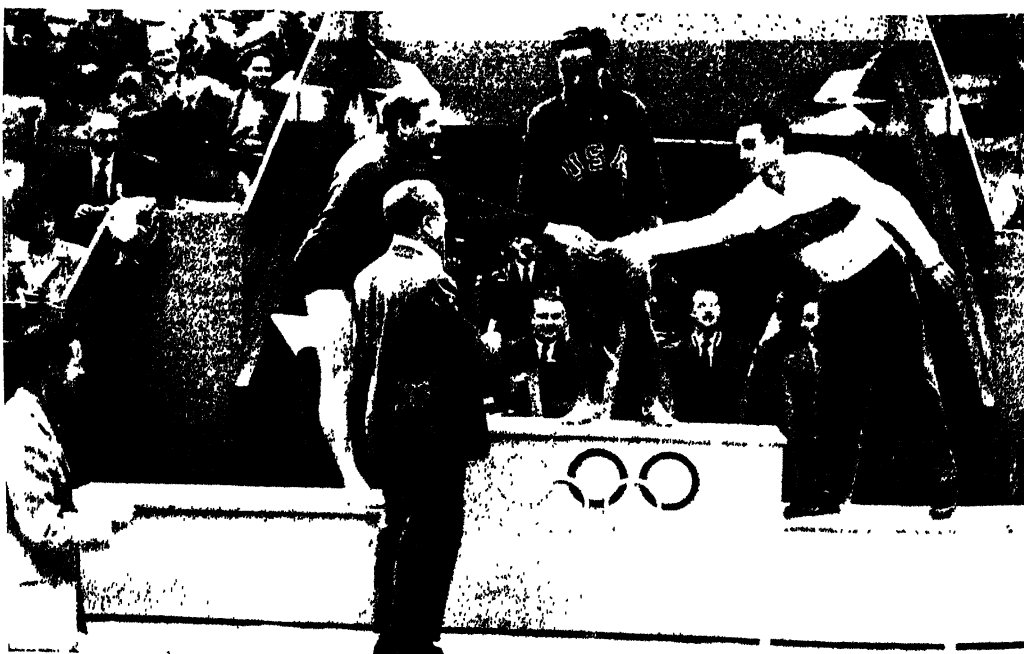
▲ CYCLISTS Ghella of Italy and Harris of Great Britain fight it out in the 1,000-meter final heats.

◀ JUMPER B. Singh of India is shown competing in the qualifying trials of the Long Jump at Wembley.



▶ MARATHON winner D. Cabrera of Argentina crosses the finish line at Wembley stadium all by himself.

▼ HIGH DIVERS congratulate each other: Lee (U.S.A.), 1st; Harlan (U.S.A.), 2nd; Capilla (Mexico), 3rd.



Atlantic and Pacific oceans. By the Hay-Bunau Varilla Treaty concluded in 1903, the Republic of Panama granted to the United States in perpetuity the use, occupation, and control of the Canal Zone for the construction, maintenance, operation, sanitation, and protection of the Canal. The treaty provided for the payment to Panama of a lump sum on the exchange of ratification of the treaty, and also an annual payment (which is an annuity and not rental) beginning nine years after the date aforesaid. A new treaty was signed on Mar. 2, 1936, which makes various amendments and additions. Total area of the Canal Zone is 648.01 square miles including 275.52 square miles of water. Balboa Heights is the administrative center.

Population. The 1940 United States census reported 51,827 persons in the Canal Zone of whom 32,856 were white. According to the annual census of the Canal Zone taken in April 1948, the population was 47,462, of whom 22,787 were United States citizens. On June 26, 1948, the force employed by the Panama Canal-Railroad Company numbered 5,020 employees paid at United States rates (chiefly U.S. citizens) and 17,716 employees paid at local rates (chiefly natives of the tropics).

Economic Conditions. The Canal Zone is in effect a United States government reservation, the principal industry being the maintenance and operation of the Panama Canal, including auxiliary enterprises to provide adequately for the needs of shipping and of the Canal operating forces. The Canal Zone is populated largely by employees and personnel of The Panama Canal-Panama Railroad Company organization and the armed forces, together with families of these groups. Transits of the Canal by ships in the fiscal year ended June 30, 1948, totaled 6,999.

Panama Canal Finances. For the fiscal year ended June 30, 1948, there was a net revenue from tolls and other sources of \$2,622,673. The net capital investment in the Canal, after depreciation, as of June 30, 1948, was \$516,332,328.

Government. A civil government was authorized by Congress by the Panama Canal Act of 1912. Administration rests in the hands of a Governor appointed by the President, by and with the advice and consent of the Senate, for a period of four years, but by Executive Order of Sept. 5, 1939, the provisions of Section 13 of the Panama Canal Act were invoked as an emergency measure, and since that date the Commanding General, Panama Canal Department (now Commander in Chief, Caribbean), United States Army, has exercised final authority over the operation of the Panama Canal and all its adjuncts, appendants, and appurtenances, including control and government of the Canal Zone; and the Governor of the Panama Canal has been subject to that authority and orders issued under it. Subject to such superior authority the scope of government goes much beyond the functions of the government in the other territories. The Governor's duties can be compared to those of an executive in the management of a vast business organization.

Events, 1948. The President of the United States, by Proclamation No. 2775, signed Mar. 26, 1948, prescribed for the Panama Canal a revised schedule of rates of toll, effective Oct. 1, 1948. (Note: The effective date was later changed to Apr. 1, 1949 by Presidential Proclamation No. 2808 signed Sept. 7, 1948.) The revised schedule is as follows: On merchant vessels, yachts, Army and Navy transports, colliers, hospital ships, and supply ships, when carrying passengers or cargo, \$1.00 per net

vessel-ton of 100 feet of earning capacity; on vessels in ballast without passengers or cargo, 80 cents per net vessel-ton; on other floating craft, including warships other than transports, colliers, hospital ships, and supply ships, 55 cents per ton of displacement. The current rates, which became effective Mar. 1, 1938, are 90 cents per net vessel-ton on laden vessels, 72 cents per net vessel-ton on vessels in ballast, and 50 cents per ton of displacement for other floating craft.

Bibliography. *Annual Report of the Governor of the Panama Canal*, Government Printing Office, Washington, D.C.

PAN AMERICAN ACTIVITIES. Bogotá Conference. The focal point of all Pan American activity during the year was the Ninth International Conference of American States, which met in Bogotá, Colombia, from March 30 to May 2. It was probably the most eventful and most fruitful in the series that began in Washington in 1889. After the conference was under way, an outbreak of mob violence occurred on April 9 following the fatal shooting of a popular leader of the Liberal Party of Colombia, Dr. Jorge Eliécer Gaitán, by an obscure fellow-countryman.

Much of the early destruction by the crowd was in the Capitol itself, seat of the conference; this fact, together with the general upheaval that ensued throughout the city and country, threatened for a time the very continuance of the conference. However, the delegations from the 21 republics were united in their determination to complete the essential parts of the program.

The concrete results of the conference are measured in terms of the instruments signed, which include the following: Charter of the Organization of American States; Economic Agreement of Bogotá; American Treaty of Pacific Settlement; Inter-American Convention on the Granting of Civil Rights to Women; Inter-American Convention on the Granting of Political Rights to Women; and Final Act of the Ninth International Conference of American States.

The Charter, already in provisional effect, furnishes the first constitution ever to be adopted jointly by the 21 independent countries of this hemisphere. Containing very few innovations, it brings together most of the basic principles and proven practices that had grown up during the past half century, and adds others needed to bring it up to date. The basic Economic Agreement is a statement of broad principles to guide the members in the conduct of their mutual economic relations, and presumably it will be implemented by a more specific program to be adopted at the special Inter-American Economic Conference scheduled to be held in Buenos Aires in 1949.

Application of the Rio Treaty. Another outstanding event occurred toward the end of the year, when on December 3 the Ambassador of Costa Rica deposited the ratification by his Government of the Inter-American Treaty of Reciprocal Assistance signed at Rio de Janeiro Sept. 2, 1947. That ratification, which completed the necessary two-thirds, enabled the Mutual Defense Treaty to enter into force.

By coincidence, Costa Rica became the first republic to invoke the terms of that treaty. On December 12 the Chairman of the Council of the Organization of American States called a special session and read to them the terms of the note in which the Government of Costa Rica requested the Council to call a Meeting of Consultation of the Ministers of Foreign Affairs, charging that the Government of Nicaragua had permitted an armed

invasion to proceed from its territory into that of Costa Rica for the purpose of overthrowing the established government. The Council voted to call such meeting but left the time and place in abeyance.

The Council held meetings on December 12, 14, 15, 17, 24, and 28, most of them as the Provisional Organ of Consultation, in accordance with terms of the Rio Treaty. A Committee of Information was named by the Council and dispatched to Costa Rica and Nicaragua to investigate the situation, and upon its return it recommended a series of steps which the Council adopted. These called upon the two governments to suppress any military activity in their respective territories that might constitute a threat against the other. The Council also appointed a Military Committee, which proceeded to Central America for the purpose of observing the extent to which the two parties carried out the measures of the Council to which they had agreed.

Peaceful Settlement Between Cuba and Dominican Republic. Several months earlier, and before the entrance into force of the Rio Treaty, another inter-American agency had persuaded two American republics to resume normal diplomatic means to settle a dispute that had arisen. The Government of the Dominican Republic requested the Council of the Organization to convoke the Committee on Methods for the Peaceful Solution of Conflicts, provided for by a resolution of the Second Meeting of Foreign Ministers held at Havana in 1940. While originally constituted by one representative each from Argentina, Brazil, Cuba, Mexico, and the United States, this was the first time that it was called upon to take specific action.

During a series of meetings that began on July 31 it considered certain charges brought by the Dominican Republic against the Government of Cuba respecting matters that the former claimed could not be settled by ordinary diplomatic means. After the meeting held on October 26, the Committee was able to announce agreement by the two parties to resume direct negotiations and to settle their mutual problems peaceably. While the elements making up these negotiations were not of a sensational nature, the success of this inter-American body in securing the peaceful solution of a regional dispute must be considered noteworthy.

Other Events. As a result of action taken at the Bogotá Conference, the permanent executive body of the inter-American system was converted from the Governing Board of the Pan American Union into the Council of the Organization of American States. To the casual observer, the quiet transformation of this 21-man body at the May 18 meeting in Washington went unnoticed.

Personnel changes during the year brought in these replacements: Captain Colón Eloy Alfaro became Special Representative of Ecuador on January 7; on March 8 Dr. Enrique Finot became the Special Representative of Bolivia, and Dr. Ismael González Arévalo, as new Ambassador of Guatemala, the Representative of that country; new Ambassadors attending the meeting held on May 18 were Dr. Ernesto Jaén Guardia, Dr. Juan Félix Morales, and Dr. Mario Esquivel, representing Panama, Paraguay, and Costa Rica respectively; while on July 30 the Council welcomed Dr. Silvio Villegas as Special Representative of Colombia, Dr. Octavio Vallarino, new Ambassador of Panama, Dr. Enrique V. Corominas, Special Representative of Argentina, and Paul C. Daniels, Special Representative of the United States.

At the meeting held November 3 the Special

Representative of Argentina, Ambassador Enrique V. Corominas, was elected Chairman, and the Ambassador of Haiti, M. Joseph D. Charles, Vice Chairman of the Council, replacing the Delegates of Peru and Uruguay respectively.

The following distinguished visitors were officially received at the Pan American Union by the Governing Board or its successor, the Council: on January 6 the Minister of Foreign Affairs of Ecuador, Dr. Antonio Parra Velasco; on July 2 the newly elected President of Venezuela, Dr. Rómulo Gallegos; on September 7 Dr. Rómulo Betancourt, ex-President of Venezuela; on December 9 Dr. Carlos Prío Socarrás, President of Cuba.

An outstanding statesman of the hemisphere, Foreign Minister Jaime Torres Bodet of Mexico, was elected Director General of UNESCO in November. The Inter-American Conference for Conservation of Renewable Natural Resources was held Sept. 7-20, 1948, in Denver, Colo.

During the course of the year considerable progress was made on plans for the operation of the Leo S. Rowe Pan American Fund, a bequest contained in the will of the late Director General of the Pan American Union for use in making loans to Latin American students who wish to study in the colleges and universities of the United States.

—PAUL R. KELBAUGH

PAPUA. An Australian territory, comprising the southeastern portion of the island of New Guinea (87,786 sq. mi.) and the islands of Trobriand, Woodlark, D'Entrecasteaux, Louisiade groups (2,754 sq. mi.). Total area: 90,540 square miles. Population (1947 est.): 302,000, including 2,000 Europeans. Capital: Port Moresby. The principal products are coconuts, rubber, sago, gold, silver, and osmiridium. Administrator: Col. J. K. Murray.

PARAGUAY. A republic of South America. The eastern third of the country is a plateau, and west of it there are low plains. The vast alluvial plain of the Gran Chaco stretches westward from the Paraguay River. The climate is subtropical and variable, depending on whether the air masses come from the tropics or the subpolar regions.

Area and Population. Area: 150,500 square miles. Population: 1,225,000 (1947 est.), of whom about 97 percent are mestizos and the rest of European descent. Chief cities: Asunción (capital) 210,000 inhabitants, Villarica, and Coronel Oviedo.

Education and Religion. The Constitution guarantees freedom of worship. Roman Catholicism is the established state religion. Spanish is the official language, but the majority of the people speak Guaraní as well. According to official reports, practically the entire population over 10 years of age has a rudimentary knowledge of reading and writing. The most recent educational statistics (1947) show 1,293 elementary schools with 176,465 pupils; 14 secondary schools with nearly 6,000 students, and a National University with an enrollment of 1,600 in 1944.

Production. The economy of the country is predominantly agricultural and pastoral. Chief agricultural production in 1947 (metric tons) was: tobacco, 12,500; sugar, 15,511; corn, 114,636; peas, 31,218; seed cotton, 37,300 and lint cotton, 57,300 bales. Industrial production: tannin, 44,914; flour, 27,830; sugar, 17,921; preserved meats, 10,967. Stock-raising is an important industry. Estimated livestock (1945): over 4 million cattle and 170,000 sheep.

Foreign Trade. Total imports in 1947 amounted to 68,087,000 guaraníes (a guaraní equals U.S.

\$0.52); exports to 65,708,000 guaraníes. Largest exports go to Argentina, Great Britain, Uruguay and the United States; imports come from Argentina, the United States, Great Britain, and Uruguay. Exports for the first quarter of 1948 were reported to be 9 percent below those of the same period of the previous year, Argentina still taking 75 percent of the whole.

Transportation. There are 713 miles of railway and 4,122 miles of highways of all kinds. Air services are supplied by five airlines.

Finance. The budget estimates for 1947 placed revenue at 46,929,000 guaraníes; expenditure at 56,129,000 guaraníes. Internal funded debt at the end of 1947 reached 42 million guaraníes. Gold reserves in June, 1947, were 1,870,000 guaraníes; foreign exchange holdings 33,697,000 guaraníes. The cost of living index in December, 1947, was 319 (1937 = 100). In September, 1948, the new government presented a bill to float an internal loan of 20 million guaraníes, to be devoted entirely to a public works program.

Government. Under the Constitution of 1940, Paraguay is a centralized republic of 12 departments. Legislative power is exercised by a unicameral Congress. Executive power rests in a President, assisted by a Council of Ministers and a Council of State. On February 15, Natalicio Gonzalez was elected President and took office on August 15.

Events, 1948. Paraguay, like nearly half of the Latin American republics, had a change of government in 1948. Domestic politics were influenced by the electoral campaign; economic life was affected by the postwar inflation, and international relations disturbed by the economic dependence of the country on Argentina.

Elections. On February 15, presidential elections were held. Only one party went to the polls, and its candidate, Natalicio Gonzalez, was elected. The president-elect was closely connected with Morfíño's dictatorial regime, in which he held the portfolio of Finance. The Colorado Party, which nominated Gonzalez, also won a substantial majority in the Congress. The other parties refrained from voting as a sign of protest. After the elections, the political climate was far from favorable. There were serious divisions among the *Colorados*, and several members of Morfíño's Cabinet resigned in protest. The armed forces showed symptoms of unrest.

The President Resigns. The "lame duck" period between Gonzalez' election and his inauguration, scheduled for August 15, proved to be difficult for President Morfíño. Members of the opposition were imprisoned, and the North American press accused the Government of having turned the country into a large prison camp. In spite of desperate efforts made by the President, the opposition grew stronger and the leaders of the *Colorados*, in order to avert trouble, demanded Morfíño's resignation. The President yielded and his place was taken by the President of the Supreme Court, Juan Manuel Frutos, who was to continue in office until Gonzalez' inauguration.

New Administration. President Gonzalez took office on the date scheduled, and kept the same Cabinet appointed by Frutos. The inaugural ceremonies were conducted with pomp, and outstanding intellectuals of the continent were invited to attend. The new administration endorsed a liberal program, and spoke of the necessity of a more democratic constitution for the country.

Army Rebellion. On October 25, the cadets of the military academy at Asunción attempted a revolt to overthrow the Government. The movement was

headed by Colonel Carlos Montanado, but police forces, after a brief struggle, succeeded in checking it until the army took over and captured most of the revolutionists. In political circles, it was rumored that the rebellion was backed by dissatisfied members of the Colorado Party. Later, President Gonzalez tried to prevent future trouble by issuing a decree to the effect that all armed forces should be under the direct command of the President.

Paraguay attended the Ninth Inter-American Conference of American States held at Bogotá (see PAN AMERICAN ACTIVITIES) and became signatory to the Charter of the Americas.—MIGUEL JORRÍN

PATENT OFFICE, United States. Applications for patents filed for the fiscal year ending June 30, 1948, totaled 80,708, compared to a figure of 86,749 for the preceding fiscal period. Patents granted totaled 24,617, including designs and reissues, an increase of 2,428 over the 22,189 issued for the corresponding period in the preceding year, and the first year there was an increase in the number of patents granted since 1941.

The total number of applications for patents pending on June 30, 1948, was approximately 244,000, an increase of some 28,000 cases over the figure at the close of the previous year. Of the cases pending, about 156,000 were awaiting action by the Office, slightly under 4,000 were involved in appeals and interference proceedings, and the remainder, about 84,000 were under rejection, awaiting response by applicants.

The inaugural year of operations under the Trade Mark Act of 1946 was one of expanded activity, with the Office registering and renewing 16,115 trade marks, an increase of 2,402 over the 13,713 figure for the preceding year. On June 30, 1948, approximately 57,000 applications for registration, renewal, and republication were pending before the examiners, with some 20,000 additional pending cases awaiting response by applicants. New Rules of Practice in Trade Mark cases were promulgated coincident with the effective date of the 1946 Act, on July 5, 1947.

Patents granted since 1836, when the consecutive numbering was begun totaled 2,444,411 on June 30, 1948. Some 25,000 of these had been placed on the Register of Patents available for license or sale since 1945, when the Register was established in the Patent Office. The Office sells printed copies of patents for 25 cents each, designs and trade marks for 10 cents each. During the year ended June 30, 1948, more than six million copies of patents were distributed, almost a half million going to libraries, and nearly two million to foreign countries under exchange agreements.

A program of improvements designed to render additional and better service to the public was continued: the roster of attorneys and agents registered to practice before the Office was revised; a comprehensive list of patents owned by the United States Government was compiled; a proposed revision of the Patent Rules of Practice was printed and widely distributed in June for solicitation of comments and suggestions; and a project to perfect the patent copy reference collection maintained for public use in the search room was initiated.

Net receipts for the fiscal year were \$5,651,585, an increase over the preceding year of \$836,325, and obligations incurred under all Patent Office appropriations amounted to \$8,603,032 as compared with \$7,262,472 for the preceding year.

—LAWRENCE C. KINGSLAND

PENNSYLVANIA. A middle Atlantic State. Area: 45,333 sq. mi. Population: (July 1, 1948) 10,689,000, compared with (1940 census) 9,900,180. Chief cities: Harrisburg (capital), 83,893 inhabitants in 1940; Philadelphia, 1,931,334. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended May 31, 1947, total revenue amounted to \$499,638,000; total expenditure, \$491,263,000.

Elections. The 35 electoral votes went to Dewey who received 1,901,160 votes to Truman's 1,751,186 and Wallace's 54,603. Roosevelt's 1944 plurality over Dewey was 105,400. There was no contest for Senate or Statewide office. In races for House seats, Democrats won 16 and Republicans 17, a Democratic gain of 11.

Officers, 1948. Governor, James H. Duff; Lieut. Governor, Daniel Strickler; Secretary of Commonwealth, Charles M. Morrison; Attorney General, Thomas McK. Chidsey; State Treasurer, Ramsey S. Black; Auditor General, G. Harold Wagner.

PERMANENT JOINT BOARD ON DEFENSE—United States and Canada. A Board set up by President Roosevelt and Prime Minister W. L. Mackenzie King in pursuance of a joint communiqué dated Aug. 17, 1940, to "commence immediately studies relating to sea, land, and air problems including personnel and material" and "consider in the broad sense the defense of the north half of the Western Hemisphere." Chairman: Canadian Section, Gen. Andrew G. McNaughton; United States Section, vacant since Spring 1948.

PERU. A republic of South America. The country is divided into three natural regions, Costa, Sierra, and Montaña. The Costa is a lowland, the Sierra, highlands and gentle slopes, and the Montaña heavily forested slopes eastward of the Andean mountains. Climate on the coast is cloudy and cool; in the highlands it ranges from very wet to very dry, according to the seasons.

Area and Population. Area: 482,258 square miles. Population: 7,246,000 (1948 est.) excluding inhabitants in the jungle areas. About 45 percent are Indians, 7 of European descent, another 45 mestizos, and the rest Asiatics and Negroes. Chief cities: Lima (capital), 628,821 inhabitants, Callao, and Arequipa.

Education and Religion. The Constitution guarantees freedom of worship. The Roman Catholic Church is protected by the State. Spanish is the official language, but Quechua and Aymara are spoken among the Indians. 42 percent of the total population is estimated to be literate. In 1947, Peru had 8,898 public primary schools with a total enrollment of 808,860. There are also private elementary schools, and 87 kindergartens. 165 secondary schools in 1944 had an enrollment of 22,474. There are five universities.

Production. Peru's economy is dependent on agriculture, stock-raising, and mining. Manufacturing contributes somewhat to the national occupation. The two principal export crops in 1947 were sugar (411,723 metric tons) and cotton (1.3 million quintals of 101.43 lb. each). The cotton crop was unsatisfactory due to labor shortage and drought. Production of sugar in 1948 was forecast at 450,000 metric tons. Oil production has been increasing every year, and in 1947 amounted to 12,763,807 barrels, an increase of 2.5 percent over the previous year. Other important mining products are copper, silver, lead, tungsten, and gold. Industrial production is centered around beer, leather goods, cotton

and wool textiles, and silk goods. Livestock industry provides for local markets and exports of wool from sheep, alpaca, llama, and vicuña.

Foreign Trade. Total exports in 1947 amounted to \$154.3 million; imports to \$168 million. Imports for the first six months of 1948 were valued at 568.9 million soles; exports at 489.2 million soles (a sol equals U.S.\$0.15), an indication that the country would continue to have an unfavorable balance of trade.

Transportation. Peru has 3,348 miles of railroads and 20,663 miles of highway of all types. Air transportation is provided by international lines as well as domestic companies.

Finance. In the absence of congressional action on the 1948 budget bill, a decree of Jan. 1, 1948, promulgated a budget balanced at 927 million soles. In the 1947 budget estimates, revenue and expenditure were balanced at 946 million soles. Currency in circulation at the end of 1947 was 653 million soles; bank deposits 931 million soles; gold reserves \$20 million.

Government. Under the Constitution of Mar. 29, 1933 (amended 1936, 1940), Peru is a centralized republic divided into provinces and departments. Legislative power rests in a Senate of 49 members and a Chamber of Deputies of 52, all elected to serve a 6-year term. Executive power is vested in a President and two Vice Presidents, similarly elected. An Economic Council composed of specialists in various fields serves the President in an advisory capacity. The President exercises his functions through a Cabinet of Ministers. On October 27, a military coup overthrew President José Luis Bustamante and appointed a provisional government headed by General Manuel Odría.

Events, 1948. Early in the year, the political crisis caused by the withdrawal of the APRA party from the government (see YEAR BOOK, *Events* 1947), appeared to lessen in tension, and public attention was focused on economic problems, i.e., inflation and the scarcity of foreign exchange. Haya de la Torre, APRA leader, came to the United States, his trip being interpreted as an attempt to obtain economic assistance for Peru from the U.S. Government.

APRA Congress. Between May 27 and June 2, an APRA congress was held at which important resolutions were taken, principally a recommendation for the creation of a Ministry of Economic Planning; support of the recently organized Inter-American Federation of Workers (CIT); a statement of position against the European colonies in Latin America; and the demand for expulsion of Communists from Government posts. APRA support of the CIT was criticized in labor circles as dangerous to the workers unions of the continent, and as being definitely partial to the American Federation of Labor, which appears to have backed the new labor organization.

Rebellion at Juliaca. The city of Juliaca witnessed a military rebellion early in July, headed by Alfonso Llosa of the rightist *Union Revolucionaria* party. The uprising was rapidly quelled, and the leader fled to Bolivia. It appeared that the military revolt was caused by the political deadlock created by the 21 Senators belonging to the *Alianza Nacionalista* party, who declared a strike and refused to attend the sessions of Congress, thereby hindering the legislative functions of the Government.

The Senators' behavior, which is a continuation of their last year's policy, was directed toward hampering Bustamante's coalition Government. The President cancelled the convocation of the Congress, and the APRA issued a manifesto against

his decree, stating that he was recognizing the Senators' right to strike. The APRA recommended legal action against the Senators for abandonment of their functions.

Conflicts between the APRA and Bustamante. The Administration decided to convoke a Constituent Assembly to modify the Constitution and solve the problem of the Senate strike. Again, the APRA protested because the Constitution, according to the document itself, could not be amended by a plebiscite, only by an act of Congress. Furthermore, Bustamante's decree provided that the Constituent Assembly should later function as a regular Congress, and the Apristas who have a majority in the present Congress, considered a new election a real risk. Neutral observers commented that the purpose of the Government was to oust the Apristas by means of a legal subterfuge. In spite of the tense situation, the administration held to its idea.

Rebellion at Callao. On October 3, the naval forces of the port of Callao turned against the Government and aided by groups of civilians, took over the Armory, the Naval Academy, and various ships. Again the administration acted rapidly and crushed the revolt. In the brief struggle, there were more than 100 dead and numerous wounded. There were minor skirmishes in Lima and Arequipa. The Government blamed the uprising on the Apristas, immediately suspended constitutional guarantees, and by decree outlawed the APRA. Many Apristas were arrested, but their leader Haya de la Torre, Luis Alberto Sanchez (Rector of the University of Buenos Aires), and other Peruvian intellectuals, managed to escape.

Government Is Overthrown. On October 27, an important military rebellion started at Arequipa, led by General Manuel Odría. President Bustamante ordered the Lima troops to march against the rebels, but on the 29th the Army chief of Lima refused to obey, and asked for the President's resignation. Bustamante fled the country, but refused to resign, and the army took control of the capital; the officers forming a military Junta to rule the country. One of the first measures taken by the new Government was to outlaw the Communist Party. As this article is being written, Peru is being governed by this Junta, with no formal announcement having been made of a return to a constitutional status.

Peru attended the Ninth Inter-American Conference of American States held at Bogotá in April (see PAN AMERICAN ACTIVITIES) and became signatory to the Charter of the Americas.

—MIGUEL JORRÍN

PETROLEUM. The 1948 output of crude petroleum in the United States amounted to 2,051,433,000 barrels, a gain of 195,326,000 bbl. over the 1947 output of 1,856,107,000 bbl. The yields of the chief producing States in 1948 were (in thousands of bbl.): Texas 923,227 (819,427 in 1947), California 345,333 (333,102), Louisiana 189,972 (160,219), Oklahoma 154,680 (141,019), Kansas (including Nebraska and Missouri) 108,017 (105,631), and Illinois 64,032 (66,459). Table 1 lists the production of crude petroleum, by States, for the years 1947 and 1948. (Source: *Oil and Gas Journal*, Jan. 27, 1949.)

Total United States imports of petroleum during 1948 were estimated at 184 million bbl. (10 months actual; 2 months estimated). This included 128 million bbl. of crude petroleum, 49 million bbl. of heavy fuel oil, and 7 million bbl. of other products. Exports from the United States of crude pe-

TABLE 1—U.S. OUTPUT OF CRUDE PETROLEUM
(In thousands of barrels per year)

State	1948 output change	1948	1947	Total for 1947-1948
Alabama.....	+ 72	468	396	1,479
Arkansas.....	+ 1,632	31,622	29,990	755,791
California.....	+ 12,231	345,333	333,102	8,001,588
Colorado.....	+ 1,525	17,273	15,748	99,846
Florida.....	+ 33	290	257	657
Illinois.....	+ 2,427	64,032	66,459	1,368,769
Indiana.....	+ 2,155	8,008	5,853	180,947
Kansas.....	+ 2,386	108,017	105,631	1,883,781
Kentucky.....	+ 415	8,992	9,407	233,875
Louisiana.....	+ 29,681	189,972	160,219	2,210,384
Michigan.....	+ 408	16,628	16,215	289,500
Mississippi.....	+ 12,308	47,325	35,017	209,618
Montana.....	+ 711	9,404	8,693	151,191
New Mexico.....	+ 6,480	47,607	41,127	586,148
New York.....	+ 202	4,560	4,762	167,450
Ohio.....	+ 187	3,295	3,108	100,442
Oklahoma.....	+ 13,661	154,680	141,019	5,882,571
Pennsylvania.....	+ 50	12,640	12,690	1,113,546
Texas.....	+ 103,800	923,227	819,427	12,221,851
Virginia.....	+ 30	30	60	109
W. Virginia.....	+ 78	2,695	2,617	437,955
Wyoming.....	+ 11,102	55,340	44,238	806,837
Total U.S. ..	+195,326	2,051,433	1,856,107	37,211,860

* Includes Utah. * Includes Nebraska and Missouri. * Includes Tennessee.

roleum and other products were estimated at 135 million bbl.

World crude petroleum output (excluding that

TABLE 2—WORLD CRUDE PETROLEUM OUTPUT*
(Annual average in thousands of barrels daily)

Country	1947	1948 ^b	% change
Argentina.....	59.9	63.5	6.0
Bolivia.....	1.3	1.3	....
Brazil.....	0.3	0.3	....
Canada.....	20.1	30.5	51.8
Colombia.....	68.1	62.0	-8.9
Cuba.....	0.7	0.7	....
Ecuador.....	6.6	7.4	12.1
Mexico.....	153.8	160.0	4.0
Peru.....	31.9	38.0	8.9
Trinidad.....	55.7	56.0	0.5
Venezuela.....	1,190.8	1,330.0	11.7
Total W. Hemisphere.....	1,592.2	1,749.7	9.9
France.....	1.0	1.1	10.0
Germany.....	11.0	11.5	4.5
Italy.....	0.2	0.2	....
Netherlands.....	4.0	9.5	137.8
Egypt.....	25.5	35.0	37.3
Great Britain.....	1.0	0.9	-10.0
Total W. Europe, Africa.....	42.7	58.2	36.3
Bahrain.....	25.8	30.0	16.3
Iran.....	422.0	510.0	20.9
Iraq.....	99.2	68.0	-31.5
Kuwait.....	44.5	125.0	180.8
Saudi Arabia.....	246.2	300.0	58.3
Total, Middle East.....	837.7	1,123.0	34.1
British Borneo.....	36.1	54.5	51.0
Burma.....	0.6	0.5	-16.7
China.....	1.1	1.8	63.7
India.....	6.1	6.5	6.6
Indonesia.....	22.0	84.4	283.5
Japan.....	3.6	3.3	-8.4
Total, Far East.....	69.5	151.0	117.3
World Total ^a , less U.S.S.R., E. Europe.....	2,542.1	3,081.9	21.2
Albania.....	1.0	1.0	....
Armenia.....	15.9	20.0	25.8
Azerbaijan.....	0.6	0.4	-33.3
Hungary.....	11.9	10.0	-16.0
Poland.....	2.6	2.7	3.8
Rumania.....	78.0	78.0	....
U.S.S.R.....	513.0	580.0	6.8
Yugoslavia.....	1.0	1.1	10.0
Total U.S.S.R., E. Europe.....	654.0	693.2	6.0
World Total ^a	3,196.1	3,775.1	18.1

* Excluding United States. ^b Estimated.

of the United States) rose to an estimated 3,775,100 bbl. daily in 1948, of this amount Venezuela and the Middle East accounted for 65 percent of the total. Venezuela's output increased nearly 12 percent in 1948 to total 1,330,000 bbl. daily. Kuwait's daily average production was placed at 125,000 bbl. for 1948. Late in the year this small sheikdom was producing 200,000 bbl. daily from its single Burghan field, now ranked as the world's largest oil reservoir with reserves of nearly 11,000 million bbl.

As a result of the development of the Leduc field in Alberta, the 1948 Canadian output of crude petroleum amounted to 30,500 bbl. daily, an increase of 50 percent over the 1947 daily average. Table 2 shows the estimated world output (excluding that of the United States), in thousands of bbl. daily, for the years 1947 and 1948. (Source: *Oil and Gas Journal*, Jan. 27, 1949; p. 236.)

PHILANTHROPY. A very considerable increase in American philanthropy during the year 1948 is indicated in the annual study of publicly announced gifts and bequests in eight large cities, made by The John Price Jones Corporation of New York.

Total publicly announced gifts and bequests in the eight cities studied reached \$362,194,204 in 1948, as compared with \$232,191,062 in 1947, and \$275,853,339 in 1946. The study, carried on as one index of philanthropy, has been in progress for 18 years. It does not represent total philanthropy but only that giving which has been made public in the cities studied—New York, Baltimore, Boston, Chicago, Los Angeles, Philadelphia, St. Louis, and Washington, D.C.

The 1948 total is 55.09 percent greater than the total for 1947. Gifts, which amounted to \$256,389,942, were 31.44 percent greater than in 1947. Bequests showed a very marked increase of 184.85 percent, from \$37,157,798 in 1947 to \$105,845,262 in 1948. The greatest increase in gifts and bequests in 1948 was shown in the field of education which had total gifts and bequests of \$109,315,656 in 1948 as compared with \$46,715,619 in 1947. Organized social work and foreign relief were other fields of philanthropy which showed sizable increases in 1948.

PHILIPPINE ALIEN PROPERTY ADMINISTRATION OF THE U.S. Shortly after the liberation of the Philippines from the Japanese invaders, the Office of Alien Property Custodian of the United States began to administer the Trading With the Enemy Act in the Philippines Islands, taking control of all enemy alien property located in the Islands. On July 4, 1946, the Philippines became an independent nation; however, the taking of enemy alien property was not yet complete. Anticipating this, the U.S. Congress, on July 3, 1946, passed the Philippine Property Act of 1946 which continued in operation the Trading With the Enemy Act, after independence, and authorized the President of the United States to create an agency to administer it.

On Oct. 14, 1946, by Executive Order, President Truman created the Philippine Alien Property Administration and on Dec. 9, 1946, appointed James McI. Henderson, formerly Special Assistant to the Attorney General, and Legal Advisor to General Douglas MacArthur, as Philippine Alien Property Administrator. The functions of the Administration are to (1) vest, i.e., take title in the name of the United States and administer enemy alien property; (2) transfer to the Philippine Republic such vested properties, or the proceeds thereof in accordance with the Philippine Property Act; and,

(3) adjudicate claims for return of property and/or payment of debt.

Up to Dec. 7, 1948, 850 vesting orders were issued, 704 claims filed, and 151 claims heard.

PHILIPPINES, Republic of the. Archipelago and sovereign state in western Pacific Ocean, lying southeast of the continent of Asia; a republic since July 4, 1946, by mutual and legislative agreement with the United States, to whom the islands had been ceded by Spain for \$20 million in accordance with terms of Treaty of Paris, Dec. 10, 1898.

Area and Population. Extending 1,152 statute miles north to south and 688 statute miles east to west at the widest point, the total land area is 115,600 square miles. Area of principal islands (in sq. mi.) follows: Luzon, 40,420; Mindanao, 36,537; Samar, 5,124; Negros, 4,903; Palawan, 4,500; Panay, 4,448; Mindoro, 3,794; Leyte, 2,799; Cebu, 1,695; Bohol, 1,534; and Masbate, 1,255.

The population totaled 19,234,000 according to the census taken during October 1948. Population of Manila, capital and principal city (see *Political Changes*, below), was 1,024,557 by final count. Other chief cities and their population prior to the Japanese invasion are: Iloilo (on Panay), 94,300; Cebu, 155,100; Zamboanga (on Mindanao), 137,700; Davao (on Mindanao), 103,100; Baguio (in Mountain Province), 27,000.

Education and Religion. Public schools in 1946 numbered 11,791 with an enrollment of 3,085,245 pupils. The state-supported University of the Philippines accommodated 7,567 students in 1941. Approximately 90 percent of the population are Christian, chiefly Roman Catholic; 5 percent are Mohammedan.

Production. The most important subsistence crops are rice, corn, and sweet potatoes; the important commercial crops are coconuts, abaca (Manila hemp), sugar-cane, and tobacco. The 1947-48 rice crop was 1,415,000 metric tons of cleaned rice as against an average of 1,500,000 tons per year before the war. Sugar crop for 1948-49 was estimated at 867,000 tons as compared with 430,000 tons in 1947-48. Copra production in 1948 was estimated at 800,000 long tons (1.1 million tons in 1947). Production of abaca in 1947 was 109,000 short tons as against a yearly average of 190,000 tons before the war. Tobacco output for the crop year ended June 30, 1947, was 17,655 metric tons (1935-39 yearly average was 36,135 tons). Cigar manufacture (1947) was 56 million units, compared with prewar annual average of 300 million units. Gold production for 1948 was estimated at \$15 million at the fixed rate of \$35 per ounce (production totaled \$38,282,000 in 1940). Principal manufactures are textiles (6,370,000 meters of woven cotton fabrics in 1947); shoes; Buntal hats; pearl buttons; cement (134 million metric tons in 1947 as against 166.8 million tons in 1938); soap; tin cans; matches; proprietary medicines; and furniture.

Foreign Trade. Imports in 1947 were valued at 1,022,710,000 pesos; exports, 528,920,000 pesos. In 1946 imports totaled 591,720,000 pesos; exports, 128,400,000 pesos. In 1939 imports were 245,160,000 pesos; exports, 244,080,000 pesos. Principal exports are sugar, copra, coconut oil, abaca. Imports are mainly textiles and food products.

Finance. For the fiscal year ending June 30, 1949, governmental revenue was estimated at 250 million pesos; expenditures at 619 million pesos (Peso equals U.S. \$0.50). The budget for the year ended June 30, 1948, showed revenue of 190 million pesos; expenditure of 243,472,000 pesos.

Transportation. Public highways (1946) extended 15,053 miles; railroad trackage, 567.5 miles. Regular air travel connects Manila with the United States, Tokyo, Hong Kong, Bangkok, Shanghai, Singapore, and Batavia. Domestic air travel connects 30 airports throughout the islands. There are six commercial radio stations functioning plus a station operated by the Department of Foreign Affairs and a relay station operated by the U.S. Department of State. A commercial station was under construction in Davao in 1948. Telephone service during 1948 was still virtually limited to Manila. Six companies provided telegraph and wireless service at 354 offices as compared with 567 offices before the war.

Government. The executive power is vested in a President (elected for 4 years); the legislative power in a Congress; and the judicial power in a Supreme Court and inferior courts. The Congress is composed of two chambers—the Senate with 24 members (elected for 6 years), and the House of Representatives with 98 members (elected for 4 years). President: Elpidio Quirino, who succeeded Manuel A. Roxas on the latter's death on Apr. 15, 1948.

Events, 1948. Political and economic progress in the Philippines during 1948 was interrupted by a series of man-made difficulties and natural disasters that aggravated the normal growing pains experienced by the young republic. Civil strife and bloodshed of ideological origin were rampant throughout the greater portion of the year and took a toll of several thousand lives, mostly in the center of Luzon, the home and spawning area of Filipino Communism; typhoons, floods, and earthquakes destroyed persons, homes, and foodstuffs, including rice crops; and disrupted or impeded the industrial production of the land. Against this background, the sudden dissolution of the national administration and the establishment of a new Government, coincident upon the death of President Manuel A. Roxas and the elevation of Vice President Elpidio Quirino to succeed him, were minor incidents in the national life.

Hukbalahap Rebellion. Despite an absolute amnesty accepted by its members in general and its leader, Communist Luis Taruc, in particular, the guerrilla organization known as the Hukbalahaps continued to harass the Government of the new republic throughout much of 1948. After two years of intermittent and bloody warfare, a short-lived peace between this organization, known as the "People's Army Against the Japanese," and the Philippine Republic began on June 21 when President Elpidio Quirino issued a proclamation of pardon to all members of the Hukbalahaps for "crimes of rebellion, sedition, illegal association, assault upon, resistance to and disobedience to persons in authority, and for illegal possession of firearms."

The amnesty, which was conditional upon surrender of all firearms to the Government within 20 days, was accepted on behalf of the Hukbalahaps by their leader, Luis Taruc, who in consequence was installed as a duly elected member of the Philippine House of Representatives (June 25), taking a seat that he had won in the election of 1946 but which had been denied him on the grounds that it had been acquired by fraud.

The Hukbalahaps were a Communist-led wartime guerrilla group that inherited the prewar Socialist Party movement in central Luzon and advocated collectivization of farm lands and abolition of tenant farming. The group had seized virtual control of the government machinery in large areas in the central Luzon provinces, had ap-

pointed mayors and police forces, exacted taxes, and solemnized marriages. After the war with Japan, it inaugurated a two-year regime of terror against landlords and against adherents of other guerrilla groups which had operated in the vicinity, notably the guerrilla group headed by American and Filipino members of the USAFFE (United States Air Forces of the Far East).

When with the passing of days it became evident that the Hukbalahaps were willing to accept the amnesty but were unwilling to surrender their arms, President Quirino journeyed personally to the remote village of Bahay Pare in central Luzon in a fruitless effort to obtain a token of surrender. Addressing 5,000 Hukbalahaps, he said that the amnesty was complete and "unconditional" and that a program of land and governmental reform would be accomplished. Accompanied by three other members of his Government, and protected only by three motorcycle policemen, he told the crowd: "I am in your hands now. You can even kill me if you want to. I am very sure that you will not, for if you do you will lose the greatest advocate of the cause of the masses in this country."

President Quirino's plea was silently but firmly rejected by the rebels and, in spite of several extensions of the period of grace in which the revolutionaries were invited to lay down their arms, the situation rapidly deteriorated. By late August open warfare flared anew, with constabulary (Government) forces clashing with large concentrations of Hukbalahaps in central and southern Pampanga Province 20 to 30 miles north of Manila.

Driven northward by relentless pressure of Government forces under Brig. Gen. Mariano Castañeda, the rebellious "Huks" made a determined stand in the Candaba swamp area, 75 miles north of Manila on the borders of Bulacan and Pampanga Provinces, but were overpowered and defeated in a series of swift engagements. Toward the close of the year it was believed that the back of the resistance had been broken and on December 12 President Quirino announced that mopping up operations were being conducted by Government troops. The whereabouts of Communist Luis Taruc, leader of the rebels and member of the Philippine House of Representatives, constituted a major mystery at the close of the year.

Volcanic and Other Disturbances. Troubles deriving from the civil conflict were further intensified by volcanic disturbances, typhoons, tidal waves, and earthquakes that took thousands of lives, caused millions of dollars' damage, disrupted the economy, and seriously reduced the life-giving rice crop. A devastating earthquake consisting of 72 distinct shocks, with concomitant landslides, struck the island of Panay during the period of January 25 to February 4, causing uncounted deaths and considerable damage to industrial facilities. Recovery from this catastrophe was complicated by an overabundance of rainfall in the early summer that resulted in flood conditions which reduced or destroyed extensive quantities of the rice crops and washed away buildings and homes on the island of Luzon.

A typhoon blew in from the sea on August 31 and September 1, swept down trees and houses in Manila, inundated 70 percent of the city, and disrupted transportation and communications within the islands. This disaster was followed almost immediately by volcanic eruption and earthquakes on the island of Camiguin off the northern coast of Mindanao. Dormant since Apr. 30, 1871, and generally considered extinct, the cone on the 5,620-foot mountain of Hibok-Hibok on Camiguin

reacted to violent localized earthquakes on September 1 by spouting fire and lava that blanketed and desolated the island.

Local shipping craft and U.S. Army transports were dispatched to the scene and removed 45,000 of the 50,000 inhabitants. Eruption of the volcano continued for 11 days. On December 10 the city of Manila was visited by still another earthquake, whose consequences, however, were measured in terror and inconvenience rather than in appreciable physical damage to the municipality.

Economic Conditions. The damage wrought by these disasters and by the civil war were reflected in the national economy. Partly as a result of the January earthquake and partly as a result of the typhoons that swept the islands in 1947, it became necessary on August 9 to ration rice among the populace. Acute hunger was manifest throughout the islands, with farmers reportedly eating only one meal a day and supplementing this diet with herbs and roots extracted from the forests. Heavy monsoon rains in August damaged the 1948 rice crop and it was reported that much of the nation's corn crop was under water and useless. The situation was further aggravated by cancellation of expected shipments of rice from Burma because of a threatened revolution in that land.

Although President Manuel A. Roxas on February 10 submitted a national budget balancing approximately in the neighborhood of 250 million pesos, it became increasingly apparent that hope of this accomplishment would have to be abandoned in the face of demands on the public purse for assistance to the homeless and foodless; and on June 30, the Philippine Congress passed appropriations totaling 619 million pesos. As a means of bolstering the national economy, the Government formulated plans toward the end of the year for the reduction by 20 percent of all imports of automobiles, cosmetics, jewelry, and other foreign-made commodities classified as "luxuries."

Political Changes. Manuel A. Roxas, first President of the Philippine Republic, collapsed and died on April 16 after delivering a speech at Clark Field, United States air base. He was succeeded by Vice President Elpidio Quirino, who in general continued to pursue the policies of his predecessor. Other political developments of the year were the proclamation by Congress of an amnesty for more than 1,000 alleged collaborators, including Jorge B. Vargas and José P. Laurel, the latter having been puppet President under the Japanese; and the formal designation on July 17 of Quezon City as the new capital of the Philippines instead of Manila, of which it is a suburb.—HAROLD J. COOPER

PHILIPPINE WAR DAMAGE COMMISSION, U.S. The United States Philippine War Damage Commission, created under the Philippine Rehabilitation Act of 1946 as a demonstration of good will for the assistance given the United States by the Philippines in time of war, and to assist in the economic recovery of the new Republic, provides for payment of claims for public and private losses caused by the war, and occurring between Dec. 7, 1941, and Oct. 1, 1945. The Act is historically unprecedented. Authorization of \$400 million for private claim payments and \$120 million for restoration of public buildings and public services is provided. All of the former and \$57 million of the latter fund are allocated to the Commission.

The agency is headed by three Commissioners, Chairman Frank A. Waring, of California; Commissioner John A. O'Donnell, of Pennsylvania; and Commissioner Francisco A. Delgado, of the Phil-

ippines. The law requires that one member of the Commission must be a Filipino. Headquarters are in Manila although an office is maintained in Washington, D.C.

Under Title I of the Act, which pertains to private claims, the Commission is required to complete its work by April, 1951. It began to receive claims on Mar. 1, 1947. At the end of the period for filing claims on Feb. 29, 1948, a total of 1,256,977 claims with a claimed value of \$1,214,272,106 had been received. A total of 383,393 claims had been adjudicated as of Oct. 29, 1948. Payments amounted to \$71,388,027.

With regard to public claims, the Commission, in cooperation with the Philippine Government, devised a system of priority allocations to several broad categories of projects under which schools and hospitals ranked first. Approvals on public claims amounted to \$40,027,354 as of Oct. 29, 1948 and preliminary payments totaled \$22,464,695. With the funds already allotted, work is well under way on extensive rehabilitation of schools, hospitals, and waterworks, as well as on reconstruction of other projects vital to the welfare of the Philippines.

Estimates of war damage in the Philippines range from \$1,000 million to \$1,500 million at prewar replacement costs, and at least three times that amount based on cost estimates in 1947.

PHOTOGRAPHIC PROGRESS. The keynote of the year for photography was its steady, useful growth in the fields of business, industry, education, and science. Only about one-third of all photographic materials and equipment manufactured were used by the amateur whereas 67 percent represented items for professional and technical use. The analysis of this latter group was about as follows: commercial and industrial uses, 33 percent; motion picture, 12 percent; reproduction, 11 percent; X-ray, 8 percent; publishing, 3 percent. Professional users of photo materials in the United States include some 15,000 commercial and portrait studios, 35,000 X-ray laboratories, 4,000 photo-finishing plants, 3,000 photo departments in industry, 3,500 graphic arts establishments serving the printing industry, 500 motion-picture producing firms, and 600 newspapers having photographic laboratories.

According to the *Wall Street Journal* of Jan. 13, 1948, a revolution in printing processes was in progress which will affect methods of typesetting and making engravings. Four Florida weekly newspapers were being printed by the Perry process whereby typewritten copy, headlines, and illustrations are photocopied and the resulting negative is reproduced directly onto a magnesium printing plate which is then bent to fit the press. All methods of preparing copy with special typewriters, however, were said to suffer by comparison with present typesetting machines from the standpoint of the availability of type sizes and styles, but for many types of work this was unimportant.

In recent years a number of photo-typesetting machines were built for composing type matter as a photographic image on film from which offset lithographic printing plates could be made. One of these machines, the Fotosetter made by the Intertype Corporation, was placed on the market during the year. Manipulation of the keyboard of this machine released matrices (each matrix having one master character, a photographic negative image, positioned securely) and assembled them in lines of the desired length. After justification, the line was photographed, character by character, on sensitized paper or film. The film-receiving container

could then be removed from the machine at any time for processing the film before the offset printing plate was made from the film record.

In October at the Detroit meeting of the Optical Society of America, a new printing process called Xerography was demonstrated with which documents can be reproduced quickly and without the use of wet chemicals or inks. A metal plate having a photoconductive coating was given a uniform electrostatic charge and then exposed to light through a negative or in a camera. The parts of the surface that are shielded from light retain the electrical charge while those areas exposed to light become a conductor and the charge leaks away. A finely ground pigment is then dusted over the surface and it adheres to the area where the electrostatic charge is retained. The plate is then covered by a paper, metal, textiles glass, or ceramic material and passed under the electric charging device whereupon the pigment is attracted to the paper or other surface without the application of pressure and after a brief heat treatment, the image becomes fused and permanent. The printing plate can be recharged and duplicates made by repeating the procedure (*U.S. Camera* 11: 46, December, 1948).

A year ago it was predicted that new methods for the rapid transmission of messages and photographs may open up a new era in communication. Further progress was noted in this field as evidenced by two demonstrations of facsimile transmission. On Oct. 21, 1948, in Washington, D.C., the Ultrafax system of the Radio Corporation of America was used effectively to transmit the entire 1,037 page novel, *Gone With the Wind*, a distance of three miles in about two minutes. Rapid processing equipment made by the Eastman Kodak Company was used to develop the transmitted record on 16-mm film. The other demonstration was given by Western Union Telegraph Company in Washington, D.C. on November 17 when a facsimile telegram was sent and an answer received in a matter of seconds using equipment that worked on the same principle as Ultrafax.

The principle of the Ultrafax system is as follows: (1) each message is photographed on special heat-resistant film and processed in a rapid-developing machine; (2) the processed film is sent through the Ultrafax television system at 30 messages a second (1,800 pages per minute); (3) the transmitted images on the television receiver tube are photographed on 16-mm or 35-mm film and then developed in a rapid-processing machine. Widely diversified types of information can be transmitted by this system at rates up to a million words a minute. The system is thus endowed with potentialities for greater speed and volume than any existing method of transmitting information and intelligence (*Collier's* 122: 13, Oct. 30, 1948).

Geographers have known for many years that great geological areas of subterranean mountains and plains exist under the sea. But most of this area is eternally dark since sunlight does not penetrate the sea more than a few hundred feet. For at least 14 years, Dr. Maurice Ewing of Woods Hole Oceanographic Institute, Woods Hole, Mass., has made photographic studies of the ocean. Last summer during a 20,000-mile cruise in the ketch, *Atlantis*, he made successful photographs at depths never before seen; the greatest depth recorded was 3½ miles where sponge-like formations on the floor of the mid-Atlantic could be seen clearly. His camera and synchroflash in watertight containers were attached to a pole and lowered to the bottom where a trigger released the flash and made the exposure.

Cameras were transported again into the upper air over the earth and new exploratory studies were made with them. For the first time, a sequence of photographs was taken with automatically operated cameras installed in V-2 type and U.S. Navy Acrobee rockets. In one mosaic of seven photographs made with exposures of 1/500 second at f/8 and taken at 1½ second intervals, a 2,700-mile arc of horizon was revealed in the 60-mile high record representing the largest segment of the earth's circumference ever photographed.

Another 7-picture sequence made from a height of 70 miles showed an hourglass-shaped panorama, 1,400 miles wide from the south horizon in Mexico to the north horizon in Nebraska. Landmarks such as an airport, a railroad, the Rio Grande River, mountain ranges, and towns can be recognized on these remarkable photographs. The rockets were fired from launching sites near White Sands, N. M. Cameras and other equipment attached to parachutes were released as the rockets began their descent when an explosive charge blew off the rocket head. (*Life* 25: 40, Oct. 25, 1948). A discussion of equipment used and problems encountered in the photographic tracking of guided missiles was published by Biherman, Dorsey, and Ewing (*Electronics* 21: 92, July 1948).

High Speed Photography. Hardly a year passes that new equipment is not made for the photography of events that happen too fast to be detected by the human eye. Last year an all-electric camera having the fastest shutter yet devised for microtime research was built and tested by the U.S. Navy at Inyokern, Calif. The instrument was called the Zarem camera after Dr. A. M. Zarem who designed it. It was said that the shutter of this camera could be operated at a frame rate of 10 million exposures per second with an individual exposure time as short as 100 millionth of a second. The shutter is essentially an electro-optical Kerr cell (glass tube filled with nitrobenzene with two immersed electrodes) mounted between crossed polarizing filters. Normally the second filter blocks the light passed by the first filter. On application of about 5,000 volts across the electrodes of the cell, the fluid becomes birefringent and rotates the plane of polarization of the light entering it through the first polarizer so that the second polarizer then passes the light and an exposure is made. The practical value of this ultra-rapid shutter was understood to be still under investigation (*Ibid.* 21: 164, July, 1948).

Two other high speed cameras were announced by the Navy as designed by Dr. I. S. Bowen of Mt. Wilson Observatory and known respectively as the RC-4 and the RC-3 cameras. With the former instrument 76 pictures, each about one-half inch square, could be taken on a strip of 35-mm film at a maximum rate of 400,000 exposures per second. A rotating mirror illuminates each of 76 stationary f/1.6 lenses. The RC-3 camera consists of a field lens, a narrow slit, a condenser lens, and a rotating mirror. The film, 4 inches wide by 42 inches long, and slit are conjugate so that the object focused on the slit is also focused as a narrow line across the film (*Amer. Cinemat.* 29: 207, June, 1948).

High speed photography was used in studies by the U.S. Army in their new "flexible-throat" wind tunnel at the Aberdeen Proving Ground in Maryland. A Schlieren camera recorded the shadowgraphs of models showing the shock waves that are produced by the impact of the air stream at speeds as great as four times that of sound or, in scientific terms, at "Mach Number Four." (*Life*,

25: 79, Sept. 6, 1948). Other studies were reported by J. Winckler on the Mach interferometer applied to studying an axially-symmetric-supersonic airjet. Photographs illustrating the performance of the instrument were included (*Rev. Sci. Instr.* 19: 307, May, 1948).

The speed of operation of Fastax cameras was reported to have been increased as follows: 13,000 pictures per second for the camera using 8-mm film; 6,000 pictures per second for the 16-mm camera, and 7,000 pictures per second for the 35-mm camera. High speed cameras winding 16-mm film at a rate of 500 pictures per second were used by the U.S. Air Force at Muroc, Calif., to measure the speed of jet airplanes over a three kilometer speed course (*Tech. Data Digest* 13: 11, Nov. 15, 1948). A high speed camera of the optical compensator type was described by C. D. Miller which used a rotating drum (6,500 r.p.m.) with the film in a closed loop around the inside of the drum (*P.S.A. Journal* 14: 669, November, 1948).

Color Photography. The public demand for color films for amateur and professional use continued unabated. Production of color materials was reported to have been greater than had ever been achieved before but it was still somewhat inadequate to satisfy the customer. One analyst reported that about 85 percent of the amateur motion-picture film used was in color, more than 25 percent of the 35-mm still photography, but a much lower percentage of the roll-film market used color materials. The customer could take his exposed color films to any one of about 75 firms for processing and making color prints. Although this number seemed small in comparison with the nearly 4,000 photofinishers in the United States, it still represented a marked increase over the number of such plants offering color-processing services a few years ago.

A larger percentage of the reproductions in magazines and books were printed in color than heretofore. The use of color by newspapers was increasing. The August 5 issue of the *Milwaukee Journal* contained 31 pages in color and the September 12 issue of the *New York News* reproduced 13 color photographs on the editorial page that were chosen from over 200 color pictures taken at the national political conventions in Philadelphia. In general the quality of color reproductions was somewhat better, probably because of better paper stock being used, and of greater skill in the application of masking techniques when working with color transparencies. This improvement was especially noteworthy when it was obtained in such well-known weekly publications as *Saturday Evening Post*, *Collier's* and *Life* which have very large printings of each issue. The quality of color reproductions in the *National Geographic Magazine* has been of a high standard for many years. In the March issue, a very interesting series of circus action-color photographs made with flashtubes was reproduced (*Nat. Geog. Mag.* 43: 305, March, 1948).

The major portion of the world's color motion pictures was still being made by the Technicolor Corporation who have constantly held to a high production standard for many years. A goal of 320 million feet per year of color prints was being approached by the end of 1948. Increased capacity and improved laboratory procedures were claimed by the Cinecolor Corporation who were said to be the largest producer of commercial color prints by a two-color motion-picture process. During the year this company announced that feature films could be made in Cinecolor at a cost of but 10 percent above that for ordinary photography. Maga-

zines of 1,000 feet capacity for the bipack film and a post-exposure or latensification treatment of the exposed negatives were reported as useful features of the improved process (*Amer. Cinemat.* 29: 373, November, 1948). In the Trucolor process introduced about two years ago by Republic Pictures color couplers are used to form a blue-dye image on one side and a red-dye image on the other side of the film (*Ibid.* 29: 79, March, 1948).

The Polacolor process consisted of a single-layer film having three separate color images which had been printed from three-color separation negatives (*Nat. Photo Dealer* 14: 75, January, 1948). Several color cartoons were made by this process and shown in the theater. It was reported in October that the Denham (England) Laboratories were being equipped to process Ansco Color, an integral tripack film. The first picture to be released by the laboratory would be color prints of *Alice in Wonderland*, a puppet cartoon with live characters which was made in Ansco Color in France (*Kine-mat. Weekly* 380: 21, Oct. 14, 1948).

Gevacolor was said to be the Gevaert counterpart of the German Agfacolor process with color couplers in each emulsion layer of an integral tripack film (*Le Photographe*, Nov. 20, 1947, p. 333). The Rouxcolor process of A. and L. Roux, French opticians is an additive system having a lens that forms four images on the area of one frame of a standard negative. Four color filters, deep red, yellow, green, and violet, one over each lens component, are required in both the camera and the projector. During projection, the four images are superposed to form the final color image (*Photo-Cinema* 28: 136, September, 1948).

Aerial Photography. The experience gained in aerial photo-mapping and survey studies during the war was being used in many ways for peaceful purposes. Extensive use was made of aerial photography in surveying for new highways, establishing not only the best route, but permitting accurate estimates to be made of equitable compensation for landowners, and of the quantity of earth that would need to be moved. The location of possible oil and mineral deposits was determined by aerial surveys. Still other surveys were devoted to identification and estimation of timber, wild life management studies, traffic surveys, and investigation of archeological sites. The U.S. Navy reported that a survey of 30,000 square miles of Alaskan territory had been completed with tri-metrogon equipment during the summer in cooperation with the Department of the Interior and other government agencies.

An experiment in supersonic aerial photography resulting in a remarkable group of pictures was described by A. D. Keough of the Photographic Laboratory, Engineering Division, Air Materiel Command, U.S. Air Force (*Tech. Data Digest* 13: 11, Nov. 15, 1947). The flight tests were based on using the combined speeds of two P-80 jet aircraft each flying in opposite directions at 500 m.p.h. 500 feet above one another; thus, a simulated speed of 1,000 m.p.h. was obtained by the low flying plane as viewed from the other plane or vice versa. Two S-7 Aerial Strip cameras, one with a 6-inch lens and the other with a 24-inch lens were in the top airplane and the movement of the film past the slit in each camera was synchronized to record a plane speed of 1,000 m.p.h. In the six passes of the two planes, one nearly perfect photograph was obtained with the 24-inch-lens camera and six pictures with the 6-inch-lens camera. The dimensional accuracy was well within two percent in the direction of the flight.

Another interesting test was conducted on September 1 when an XR-12 type photo-reconnaissance airplane was flown nonstop by the U.S. Air Force, a distance of 2,700 miles from Santa Barbara, Calif., to New York City. A tri-metrogon camera installation was used with three K-17 type cameras fitted with 6-inch lenses and 400-foot film magazine loads. With the plane flying at a nearly constant altitude of 40,000 feet, each camera made 390 individual exposures and used 326 feet of film. The exposures were automatically controlled with an intervalometer at intervals of 50 seconds. The three cameras covered an area about 490 miles wide. The resulting continuous strip of photographs, 192 feet long, was stated to be the first one to have been made on a nonstop flight across the country. (*Life* 25: 12, Nov. 29, 1948).

An excellent summary of recent advances in aerial photographic equipment and the applications to reconnaissance was published by A. H. Katz (*J. Opt. Soc. Amer.* 38: 604, July, 1948).

Motion pictures at normal speed and with high speed cameras are frequently taken to record airplane performance tests and to obtain a permanent record of instrument dials during flight maneuvers. All Lockheed experimental airplane take-offs and landings at Burbank, Calif. were recorded by photographing them through a special wire grid, 64 feet long by 9 feet high, on which vertical wires spaced off 100-foot runway sections and horizontal wires marked altitude in 25-foot sections. Examination of individual frames permitted accurate calibration of each airplane's performance. Similar installations were being set up at Wright Field, Dayton, Ohio, and at the Air Base at Muroc, Calif. Four motion-picture cameras were installed in a P-80 jet drone plane of the U.S. Air Force used in tests which were considered too hazardous for a pilot to undertake. The cameras were operated by remote control from the ground or from a mother plane. One camera photographed a special instrument panel in the nose which was also scanned by a television camera, another camera recorded the regular instrument panel, and each of the other two cameras photographed the wing tips. A fifth camera located in the ground control truck photographed the television receiver screen (*Electronics* 21: 126, October, 1948).

A new type stabilized camera mount for use in aircraft was described by A. D. Keough. It made use of a gyro, an erecting system which places and holds the gyro in a vertical position, an optical pick-off, and a servo electro-mechanical system. The device was said to be promising for use in high speed aircraft (*Tech. Data Digest* 13: 13, Oct. 1, 1948).

Motion Pictures and Television. The 25th anniversary of the 16-mm reversal process was observed by several trade announcements and articles published during the year. The first public demonstration of the process took place in East High School, Rochester, N. Y., on the evening of Jan. 8, 1923, when Dr. C. E. Kenneth Mees gave a lecture entitled, "Motion Picture Photography for the Amateur." In the quarter century that has elapsed since that date the interest in amateur motion pictures has grown steadily until in 1948, it was estimated that there were more than a million families in the United States who owned amateur movie cameras and about 950,000 families who owned projectors. The ratio of those owning 8-mm equipment to those owning 16-mm equipment was nearly 2½ to 1. (*Photo Developments* 23: 64, July, 1948).

A rapid growth in the use of 16-mm pictures for educational and industrial use was noted since

1945 which was stimulated in large part by the extensive use that was made of visual aids during the war. Central film libraries were set up at state universities and colleges for common distribution. Indiana University was reported to have over 7,000 prints of 2,326 different films, and Chicago University had more than 8,000 prints of 700 films. By 1950 the U.S. Office of Education expects that more than 8,000 film subjects will be available. An increasing percentage of the films being made were in color (*Coronet* 24: 149, June, 1948).

Although a large percentage of industrial and educational films contained sound, it was generally recognized to be an expensive operation to make a sound film. Interest was aroused therefore in several methods of magnetic tape recording for which claims of good fidelity were made at moderate cost. The use of magnetic tape also permitted quite satisfactory sound to be recorded for 8-mm projection (*PSA Journal* 14: 181, April, 1948. *ibid.* 14: 424, August, 1948).

Substantially improved quality in 16-mm sound film was said to be obtainable by J. A. Maurer by the use of an optical one-to-one ratio printer. Various defects introduced by contact printing of 16-mm sound tracks were described and the requirements for satisfactory optical printing were analyzed. (*J. Soc. Mot. Pict. Eng.* 50: 458, May, 1948).

On Jan. 1, 1948, a total of 5,000 persons in the Los Angeles Shrine Auditorium saw a direct instantaneous projection of the Rose Bowl football game on an 18-foot screen. A few months later in New York, on April 14, large-screen television using a film recording system was given its debut in the Paramount Theatre where an audience of 3,000 saw a boxing bout that was actually in progress across the East River in Brooklyn (*Life* 24: 49, May 3, 1948).

The televised image as received on the cathode-ray tube at the theater was photographed on 35-mm film and developed ready for projection within 66 seconds. With improved equipment and better technique, the total elapsed time was cut down subsequently to 22 seconds (*Mot. Pict. Herald* 172: 13, Sept. 18, 1948; also *Video*, Sept. 27, 1948). Additional shows were given at the Paramount Theatre during the balance of the year, and it was announced that similar installations would be made in Chicago and Los Angeles.

The electronic and camera equipment for recording television sight and sound on film directly from the cathode-ray tube were described by Goldsmith, Jr. and Milholland (*J. Soc. Mot. Pict. Eng.* 51: 107, August, 1948). Optical problems in large-screen television were enumerated by Maloff (*ibid.* 51: 30, July, 1948). The development of theater television in England was reviewed by West (*ibid.* 51: 127, August, 1948). A broad historical sketch of the progress of television was presented by Lankes (*ibid.* 51: 223, October, 1948).

The use of motion-picture film for nearly instantaneous projection of a televised event would use only a small quantity of film compared with feature pictures and topical short subjects made especially for television. It was reported that several of the well-known film producers, such as Jerry Fairbanks, had signed contracts to make several hundred feature television films each year. The "Public Prosecutor" series was the first to be scheduled for production and several subjects of this series were completed. New techniques required for films to be used for television were discussed by Foster who pointed out that the prints should have very high key quality (*Amer. Cinemat.* 29: 229).

Nearly one million television receivers were understood to be in use in the United States by the close of the year, and about one-quarter of these were installed in the metropolitan area of New York. It was estimated that film time might run as high as 50 percent of air time; if this percentage is realized it would mean a substantial increase in the consumption of film (*Video*, Aug. 16, 1948).

Applied and Scientific Photography. The microfilming of books, newspapers, checks, and other documents is a well-known time saver and cost-cutter for industry. Each year many new firms install copying cameras and readers handling microfilm and thereby effect a substantial saving in storage space as well as obtain valuable copies. The State of Arizona began a microfilm project in 1948 whereby all old state records will be copied and about 3,000 square feet of floor space released.

Some progress was reported on the problem of microprinting of books and pamphlets on small cards, 100 pages to a card. One firm was reported to have worked out a method of reproducing 100 or more pages by photographic printing on a small card.

Twenty cameras adapted for the new British Technichrome bipack film were used to make a feature color film of the XIV Olympiad which was produced by the J. Arthur Rank Organization. A grand total of some 500,000 feet of color negative was exposed by 75 cameramen. Several thousand feet of Technicolor Monopack film were made of the winter sports at St. Moritz, Switzerland; other scenes were photographed in Greece. A great many camera positions were established in advance at the Wembley Stadium, others were made from moving trucks and by cameramen on foot. Underwater color shots of the aquatic events were made with a Newall camera fitted with a Cooke f/1.3 lens (*Amer. Cinemat.* 29: 374, November, 1948). The finish lines of the track events and the cycling races were photographed using a special camera having a moving film behind a narrow slit. The speed of movement of the film was set before the race, based on the estimated speed of the contestants. Rapid processing in solutions at 110° F. permitted prints to be delivered to the judges within 60 to 90 seconds after the finish (*Brit. J. Phot.* 95: 311, July 30, 1948).

A radar navigation chart of 344 miles of the Ohio River was made early in the year from a mosaic of photographs of the radar scope images. The Mirar camera developed by the Fairchild Camera and Instrument Corporation for use with all makes of ship-borne radar equipment was said to record radar scope images automatically. The film magazine held 100 feet of 35-mm film (*Popular Phot.* 23: 126, July, 1948). Various equipment for photography of the electronic image as used by the U.S. Navy during the war was described by Clasby and Koch (*J. Soc. Mot. Pict. Eng.* 50: 189, March, 1948).

An event of paramount importance in the scientific world, the dedication of the great 200-inch-diameter reflecting telescope on Mt. Palomar in California, took place on May 3, approximately 20 years after active work began on the project. The instrument was given final tests during the latter half of the year and it was expected to be used for planned photographic work late in the year.

Direct observation through the telescope, while possible, will be uncommon. Photographic records are permanent, the photographic emulsion with long exposure can integrate the light and record images that cannot be seen directly. Such records can be studied and measured by many scientists.

A spectroscope will frequently be attached to the telescope to measure various characteristics of the stars. (*Westinghouse Eng.* 8: 99, July, 1948). A color motion picture, *The Story of Palomar* was finished during the year and was being distributed through the California Institute of Technology (*Amer. Cinemat.* 29: 312, September, 1948).

The first successful photographs showing sludge in blood cells were made by F. W. Goro using a camera he built of 100-inch focal length which fitted over the microscope objective. A stroboscopic lamp was used to make 43 exposures over a period of 24 hours of the blood stream of a dying frog (*Life* 24: 49, May 31, 1948).

New frontiers of knowledge were explored with the aid of special photographic plates during the year. Emulsions of high silver halide content and low background fog were used to record the tracks of charged particles which move at high velocity through space.

In England in 1947, two types of mesons, one from cosmic rays and the other from the decay of the first type, were recorded by Powell and his colleagues (*Nature* 166: 453, 486, 1947). This year at the Radiation Laboratory of the University of California, Gardner and Lattes created mesons artificially by bombarding various substances with helium nuclei in the great cyclotron (*Science* 107: 270, Mar. 12, 1948). A year ago it was doubtful that electrons could be registered at all by the photographic emulsion. This year with much improved plates, electron tracks were identified unmistakably both at the Kodak Research Laboratory in Harrow, England, and at Rochester, N.Y. From the length and curvature of the track and the grain spacing, data were obtained of the electron's speed and other properties (*Physical Rev.* 74: 511, Sept. 1, 1948). In December, plates having ultrasensitive characteristics were announced by Kodak Research Laboratories which may prove of great value in future nuclear research.

The physical principles and techniques of autoradiographs were discussed by G. A. Boyd (*J. Biol. Phot. Assn.* 16: 65, December, 1947). In this new field of medical photography gross anatomical or histological sections, from animals which have been fed or injected with substances having radioactive elements, are placed in contact with a special photographic plate. The emitted radiation produces a heavy exposure in localized areas. Photomicrographs of the stained tissue then reveal exactly the location of the radioactive substance. The study of cancer and other diseases, it is hoped, will be facilitated with autoradiographic technique. For much of the work with microsections it was expected that phase contrast microscopy would be used. J. Magliozzi defined this subject as a special method of controlled illumination, ideally suited for the observation of thin highly transparent objects, whose structural details vary slightly in thickness and refractive index (*Educational Focus* 19: 6, February, 1948).

Physical Measurement and Standardization. It was pointed out by F. E. Washer of the National Bureau of Standards that the present system of marking lens diaphragm stops in terms of the geometric f number is subject to serious deficiencies. Decisions regarding the proper exposure to use at selected stop openings may be in error by 10 percent or more, depending on whether the lens surfaces are coated or not; the error being greater with coated lenses. A method was described by Washer whereby a lens can be calibrated by a light meter in terms of an ideal lens by passing light of known spectral quality (noon sunlight)

through the lens and measuring the transmitted light at the image plane (*J. Soc. Mot. Pict. Eng.* 51: 242, September, 1948). This method known as the T system was recommended by a subcommittee of the American Standards Association as a better system than the present f system. (*Pop. Phot.* 23: 87, October, 1948).

Fourteen additional American standards on motion pictures were accepted by the American Standards Association on recommendation of its Sectional Committee on Motion Pictures Z22. The completion of this work brought to 49 the number of new and revised standards in this field (*J. Soc. Mot. Pict. Eng.* 51: 534, November, 1948). A short article by I. C. Gardner pointed out how standards on photographic lenses would aid in their purchase and use (*Ind. Standardization* 19: 43, May-June, 1948).

In their fourth paper on the subject of photographic granularity and graininess, L. A. Jones and C. C. Higgins reported on further work on the manner in which the visual system functions in the perception of various test objects. It is believed that the knowledge gained from these studies will lead to a better theory of the visual process, which in turn will aid in finding a method of measuring granularity that will yield values in agreement with graininess measurements (*J. Opt. Soc. Amer.* 38: 398, April, 1948).

In a paper on absolute sensitivity measurements on single-grain-layer photographic plates for different wavelengths, J. H. Webb said that about 40 light quanta must strike a single grain of silver bromide to make it developable. Of the 40 quanta, probably not more than 10 are actually used in the formation of the silver speck before the grain can be developed (*ibid.* 38: 312, April, 1948).

Photographic Materials and Apparatus. Of paramount significance to the motion-picture industry was the announcement by Eastman Kodak Company of an improved safety motion picture support, the result of much research extending over a period of nearly 30 years. The new support was said by C. R. Fordyce to be a highly acetylated cellulose acetate having improved physical properties and better aging characteristics than commercial safety film in previous use (*J. Soc. Mot. Pict. Eng.* 51: 331, October, 1948). It was reported that enough of the new safety stock was available near the end of the year to make every fourth picture on it in 1949. Only two feature pictures were known to have been printed on the new stock during 1948. It was predicted that a complete changeover to safety film from nitrate film would be possible by 1952 (*Motion Pict. Herald* 173: 27, Nov. 27, 1948).

The number of new sensitized products for amateur and professional use that were introduced were small and included the following materials: Ansco Strip Paper and Velox Unicontrast Paper, both in 1,000-foot rolls for strip printing on continuous machines; Cykora Paper (Ansco); Rembrandt Chlorobromide Contact and Projection Paper (Remington-Rand); Separation Negative Plates, Type I (Kodak); Highlight Masking Film (Kodak); Super-X and Super-XX Blue Base Reversal Films (Kodak). Photographic plates on very thin (0.040-inch) glass were supplied by Eastman Kodak Company for the 48-inch Schmidt-type telescope on Mt. Palomar; the glass could be bent into a section of a sphere.

Although the principle of printing photographs on textiles has been known for some time; until recently no practical method had been adapted to continuous operation. Late in 1947, two processes were announced that appeared to have commercial

possibilities. These were known as the Leize process (Foto-Fab, Inc.) and the Photone process (Ross-Smith Corp.) and with them it was estimated that about six million yards of textiles would be printed during 1948.

At least 125 still-camera models built by some 50 different companies could be purchased on the American market (*Fortune* 37: 138, March, 1948). Several new models of cameras were added to the list including three models by Ansco called the Flash Clipper, the Speedex, and the Titan; the Busch 4 by 5 Pressman; four new Kodak cameras called the Tourist; the Kodak Duaflex; the Perflex, Series 100 Camera; the Kalart camera; and the Bell & Howell Foton camera. Safety devices were said to prevent blank exposures or a premature flash when using the Kalart camera. With the Foton camera, a spring drive was claimed to make possible 12 double-frame exposures within a second on 35-mm film. The focal-plane shutter was of novel design and consisted of four metal leaves, two behind the lens and two at the film plane. The Cooke lens was calibrated in T stops, the first camera lens to be marked with this system (*PSA Journal* 14: 551, October, 1948; also *Fortune* 38: 92, July, 1948). In November at the PSA meeting in Cincinnati, a commercial model of the Land One-step camera was demonstrated; a finished print was produced in about one minute after making the exposure.

The Beattie Portronic Camera was stated to permit 326 pictures (2½ by 3½ inch. in size) to be made on each 100-foot roll of 70-mm film. The exposure was made with electronic synchroflash, an identification number was printed and the film advanced—all from a single pressing of a button.

In the 16-mm field, the Cine Kodak Special, Model II had a lens turret added and other improvements. The Revere 16-mm Sound Projector was announced in April and their Model 48 Projector for 16-mm film in October. Two new 8-mm projectors were marketed by the DeJur Ansco Corporation. Considerable interest was aroused in a complete new series of seven Cine Ektar Lenses; the fastest lens being the 25-mm, f/1.4 (*PSA Journal* 14: 425, August, 1948).

Bausch and Lomb Optical Company described a new series of 16-mm projection lenses at the S.M.P.E. meeting in October. Wollensak announced a new fast lens called the Cine Raptar of f/1.5 aperture. An extremely wide angle lens for aerial mapping, known as the Pleon lens, was developed in Germany during the war. Designed to utilize large amounts of distortion for a wider field of view, the focal length is only 2¾ inches but the outer lenses are about one foot in diameter with a view field of 130 degrees (*Amer. Cinemat.* 29: 154, May, 1948).

Items of miscellaneous equipment were numerous and included the following: Argus PA-200 Projector for 35-mm slides; the Spectra, a direct-reading color temperature meter; Kodaslide Table Viewer for examining 2 by 2-inch slides which by a simple movement of a metal plunger are projected on a 7½ by 7½-inch daylight screen; and Kodak Color Densitometer. The use of an auxiliary device called the Invercone converted the Weston Master II reflection type lightmeter into an incident lightmeter. The Kodak Studio Speedlamp permitted the use of lens apertures as small as f/16 and included a power unit with sufficient power for three flashtubes for balanced portrait lighting. A very compact enlarging unit was known as the Federal Store-Away Enlarger. The SEI Exposure Photometer (Ilford, Ltd., London) was claimed

to permit accurate light measurements ranging from 0.01 to 10,000 foot lamberts.

In line with the trend for continuous processing apparatus for photofinishing of prints, two concerns introduced equipment for this work. The Kodak Continuous Paper Processor machine handled long rolls (1,000 feet) of paper, used automatic solution feed and replenishment, and had a stated capacity of 2,400 oversize prints per hour. The Fotopak machine was said to have about the same capacity and to be adaptable for use with modified commercial printers and dryers. New roll-printing heads for use with such equipment were announced for two models of Kodak semiautomatic printers.

The Photographic Process. Chemicals in packages, bottles, and packets continued to be popular with amateur and professional users of photographic materials. A small heat-sealed metal foil envelope was used by one firm for dispensing developers, stop baths, fixers, and a few other chemicals for amateur use. Ansco Ardol and Vividol package developers replaced respectively their 103 and 105 Prepared Developers.

Positive transparencies could be made directly on film exposed in the camera or duplicates printed from negatives or positives by a one-bath reversal process described by H. A. Miller. A developer containing hypo in addition to the usual components is used, and the image is given a light-logging treatment (*PSA Journal* 14: 103, February, 1948). Details for reversal processing of Gevaert films were published by H. Verkindern (*Brit. Kinemat.* 13: 37, August, 1948). Processing directions for use with Kodak Blue Base Reversal Films were made available.

A method of gold and mercury latensification and hypersensitization of images for direct and physical development was described by T. H. James, W. Vanselow, and R. F. Quirk. With latensification emulsion speeds were obtained on physical development that were about equal to those found with direct development (*PSA Journal* 14: 349, June, 1948). Another paper by W. Vanselow, R. F. Quirk, and J. A. Leermakers gave further information on this subject and described latensification studies with sodium perborate (*Ibid.* 14: 675, November, 1948).

The sources, prevention, and removal of scums, sludges, and stains were discussed by J. I. Crabtree and R. W. Henn who included several useful tables in their article for handy reference (*Ibid.* 14: 201, April, 1948).

Bibliography. A biweekly newspaper called *Photo Industry*, was started in New York in March. A list of the more significant books published is as follows: *Fun with Your Camera*, J. Deschin (McGraw-Hill, N.Y.); *Making Your Pictures Interesting*, E. Theisen (Ziff-Davis Publishing Co., Chicago); *Camera and Lens*, A. Adams (Basic Photo Series No. 1, Morgan & Lester, N.Y.); also *The Negative*, A. Adams (No. 2); *Camera Art as a Means of Self-Expression*, M. Thorek (Lippincott Co., Philadelphia); *La technique photographique*, L. P. Clerc (P. Montel, Paris, 4th ed.); *Magic Shadows: The Story of the Origin of Motion Pictures*, M. Quigley, Jr. (Georgetown University Press); *The Miracle of the Movies*, L. Wood (Burke Publishing Co., London); *Color Photography for the Amateur*, K. Henny (McGraw-Hill, N.Y. Rev. ed.); *Color Photography in Practice*, D. A. Spencer (Pitman & Sons, London, 3rd ed.); *An Introduction to Color*, R. M. Evans (Wiley & Sons, N.Y.); *How To Take Industrial Photographs*, M. H. Zielke and F. G. Beezley (McGraw-Hill,

N.Y.); *Photography in Law Enforcement* (Eastman Kodak Company, Rochester, N.Y.); *Aerial Photographs in Forestry*, S. H. Spurr (Ronald Press, N.Y.); *Fundamentals of Photographic Theory*, T. H. James and G. C. Higgins (Wiley & Sons, N.Y.); *Australian Photography*, Edited by O. L. Zeigler (Sydney, Australia); *Sound and the Documentary Film*, K. Cameron (Pitman, London).

—GLENN E. MATTHEWS

PHYSICS. Cosmic Radiation. Most important among the advances in physics in the year 1948 were those in the field of cosmic ray research.

The elusive atomic particle, called both meson and mesotron, has been created artificially for the first time in the largest of the University of California cyclotrons by bombardment with alpha particles, accelerated to energies of 400 million electron-volts, an event that promises better understanding of the atomic nucleus, and of the forces that hold it together. There are theoretical grounds for hoping that the meson can blast energy out of heavy elements even more effectively than the neutron. The future may bring a meson atomic bomb, now that the scientists can create mesons under control.

Actually there are probably more than four varieties of particles, all called mesons. The most usual one found in cosmic ray bursts is about 200 times the weight of the electron. All of the kinds of mesons are intermediate between the electron, lightest subatomic particle, and the proton, heart of the hydrogen atom. The proton and the neutron are each about 2,000 times the weight of the electron.

Now that mesons can be made in the Berkeley giant "atom smasher" much more should be learned about them. Although mesons live only a fleeting fraction of a second, they can be studied and used as experimental tools once they are created at will. Theoretical physicists suspect that mesons are a sort of go-between in allowing neutron and proton to turn into one another. They have evidence for this strange performance but do not yet understand what happens. The closest picturization would be the meson being passed back and forth like a ball between two basketball players.

Evidence that there are heavy nuclei in cosmic radiation was gathered in the Office of Naval Research project called "Skyhook" during which balloons carrying recorders have been sent above the roof of the atmosphere.

Atomic debris or "cinders of creation" are being rained upon the earth in much the same way that remnants of past planets fall on the earth as shooting stars. Tracks of heavy particles were captured when physicists of the University of Minnesota and the University of Rochester sent cloud chambers and special photographic plates aloft in free balloons. In the University of Minnesota group are Drs. F. Oppenheimer, E. P. Ney, E. J. Lofgren and Phyllis Freier, while the University of Rochester group includes Drs. H. L. Bradt and B. Peters.

The top of the earth's atmosphere for the cosmic rays that bombard us from outer space was discovered by scientists who put their instruments into a captured Nazi V-2 rocket that was fired up to 100 miles over the White Sands, N.M., Proving Ground in July. The discovery was announced by Dr. J. A. Van Allen of the Johns Hopkins University Applied Physics Laboratory and Dr. H. E. Tatel of the Carnegie Institution of Washington.

Some 34 miles above the earth's surface, the

intensity of the cosmic ray bombardment begins to become constant. This is the beginning of the "cosmic ray plateau." From this high-altitude region out into space the cosmic radiation is believed to remain virtually constant. A Geiger counter was placed in the rocket fired at White Sands, July 29, 1948. As the rocket shot up to an altitude of 100 miles, the scientists received a record of the cosmic ray count by means of a radio telemetering system. The rocket's flight gave them counts of cosmic rays at the highest altitudes at which the mysterious rays have been studied.

The intensity of cosmic rays in the space out from the earth is two to three times greater than scientists had calculated on the basis of lower altitude observations. Below 55 kilometers, or approximately 34 miles, the cosmic rays varied from one or two counts a second at sea level to a peak of 49 counts per second in the neighborhood of 12 miles above the earth. But for the highest 66 miles of the flight, the cosmic ray count was steadily a little more than 22 counts per second.

Atom smashers. Research in nuclear physics will receive material aid from tremendous new atom smashers which will provide physicists with energies up to at least seven thousand million electron-volts, plans for which were formulated during the year.

Two new gigantic accelerators, or electronuclear machines, both of which promise to operate at thousands of millions of electron-volts in the energy range of the cosmic rays, were planned to be built in the next few years with \$11 million of Atomic Energy Commission funds. The largest, a 110-foot diameter cyclotron, will be at the University of California's Radiation Laboratory at Berkeley. The other, a 60-foot diameter synchrotron, will be built at the Brookhaven National Laboratory, Upton, Long Island, N.Y.

Enough energy to exceed the most powerful cosmic rays from the depths of the universe, six to seven thousand million electron-volts, will be produced by the \$9 million Berkeley cyclotron, to be completed in four to five years. This will multiply about 15 times the power of the largest cyclotron now operating, the 184-inch atom smasher also at Berkeley, in which mesons were produced artificially. The new machine will be 110 feet in diameter with a circular housing around the rim. Atomic particles will speed around it under the influence of 10,000 tons of magnet. Protons, the hearts of hydrogen atoms, will be fed into the machine. Mere men operating it will be dwarfed by the apparatus.

W. M. Brobeck, who did the engineering design of the present world's largest cyclotron, determined that it would be feasible to build and operate a great proton accelerator at the ten thousand-million electron-volt level. Dr. Ernest O. Lawrence, whose invention and operation of the cyclotron won him the Nobel Prize, will direct it. The magnet will be divided into four segments, the four gaps providing access to the accelerating chamber for such equipment as vacuum pumps and the high frequency equipment which accelerates the protons. As protons pass the accelerating electrode point on each trip around the magnet, they will be struck by a high frequency charge of either 2,500 or 5,000 volts. With 5,000 volts on the accelerating electrode, each particle would make more than one million trips around the chamber before reaching six thousand million electron-volts. Operation of the great atom smasher will be pulsed; that is, it will operate for about two seconds at a time, then will be turned off for a few minutes.

Two to three thousand million electron-volts will be the energy of the protons to be accelerated in the 60-foot diameter machine to be built at Brookhaven National Laboratory in about three years at a cost of \$3 million. In the operation of the machine, the protons will travel repeatedly around a fixed orbit consisting of four quadrants of a circle 30 feet in radius, alternating with four straight lines about 10 feet in length. The path the protons will follow will have the appearance of a circle flattened at four equally spaced points around its circumference. The total distance travelled in one revolution will be about 230 feet and a proton reaching its peak energy will make about 3.5 million revolutions, a distance of about 150,000 miles. It will travel this distance in less than a second. Design of the Brookhaven machine was by a group headed by Dr. M. Stanley Livingston, on leave of absence from Massachusetts Institute of Technology.

The world's most powerful linear accelerator, a high voltage apparatus that works on a principle different from the cyclotrons, was authorized for Stanford University, to be financed by the Office of Naval Research. Instead of speeding heavy atomic particles in a merry-go-round whirl as in the cyclotron, the linear accelerator shoots electrons in a straight line, sending them down a tube on the crest of radio microwaves, such as used in radar.

Dr. William W. Hansen, director of the Stanford Microwave Laboratory, will direct the building of the 160-foot accelerator. A 12-foot pilot model of the accelerator has already produced electrons of 6 million volts. Experiments upon the fundamental nature of matter and creation of artificial cosmic rays are possibilities through use of the thousand-million electron-volt energies to be reached by the new accelerator. Dr. Hansen believes that it may be possible to create protons and neutrons, the components of the atomic nucleus, through the use of such high energies.

Neutron Beam Diffraction. New knowledge about the structure of crystals was made possible with the discovery that the neutron, the particle that triggers the atomic bomb, can be used to study crystals with results surpassing those of either electron or X-ray diffraction.

For the first time scientists have actually been able to see how hydrogen atoms tie up to the oxygen atoms in a piece of ice. Drs. E. O. Wollan, C. G. Shull and W. L. Davidson of the Oak Ridge National Laboratory in Oak Ridge, Tenn., have found that hydrogen atoms are not stay-at-homes, fixed in one position, as proposed by some scientists. Instead, the hydrogen atoms are restlessly jumping from one position to another in the crystal structure of ice. Since hydrogen is present in all of our foods, fuel, clothing, and many other materials, such studies are of great potential importance.

The Oak Ridge scientists photographed the pattern produced by a stream of neutrons when scattered by passing through an ice-crystal. The pattern is like a shadow picture of the atomic structure of the crystal. A wide variety of other substances in addition to ice have been studied by the neutron beam technique. Production of diffraction patterns with neutrons is much more difficult than getting the patterns with electrons and X-rays.

Research Instruments. The development of important new instruments for physics research opened the door to whole new areas of scientific discovery.

Color "staining" with light waves without killing

the living cells is a new microscopic technique that is expected to reveal much about important life processes. This new kind of microscope, a further development of the phase microscope, will permit man to observe cells as they grow, multiply and carry on their important life functions. It will let scientists see in color, for the first time, both normal and cancerous growth, and may help them discover what the abnormal growth is.

But this latest development in microscopy is still very much in the experimental stage. Many refinements may be expected before instruments of this type are made available to scientists for important research. The instrument, reported to the National Academy of Sciences meeting, was developed by Dr. F. Zernike, a Dutch physicist who visualized and made the first phase microscope. Dr. Zernike, professor of physics at the University of Groningen, the Netherlands, was visiting professor in physics at the Johns Hopkins University during 1948.

The ordinary phase microscope uses two transparent rings to reveal, in black and white, details heretofore unknown concerning delicate cell structure. Two optical companies are now making instruments of this type available commercially in America. The phase ring separates a small portion of light and distributes it over the whole field. It works because it takes advantage of the fact that light travels in waves. This separated light, spread over the whole image, promises an evenly illuminated background. The image appears bright where the phase of the direct light is the same as that of the background light so that it is reinforced. It shows dark when the phases of the two light parts are different so that by interference they destroy each other. In the new color phase microscope, the ring works in an opposite way in the red than in the green end of the spectrum, giving some details more red light, others more green, depending on their thickness.

Invisible infra-red light, or heat waves, were detected by sound too high-pitched for the ear to hear through use of the acoustical interferometer. It has practical as well as laboratory applications, such as the detection of invisible light signals, and perhaps to detect the short radio waves in radar.

The acoustical interferometer consists of two quartz crystals, such as those used in radio, with a gas confined between them. A transmitter sets one crystal into vibration, and a receiver detects the ultra-sonic vibrations carried by the gas to the other crystal. When infra-red rays strike the gas they affect the passage of the sound through the gas. The new instrument, developed by Prof. W. J. Fry and his associates, can be used with carbon dioxide containing water vapor, or some other gas.

If invisible infra-red radiation passes through the gas, it has an effect on the sound vibrations in it, and the gas molecules are changed so that they absorb less of the sound waves passing between the two crystals, and this may be instantly detected.

The microwave spectroscopy uses waves of the same length as radar to detect even tiny amounts of chemical elements, making it possible to trace chemical elements in some parts of the body without the use of hazardous radioactive isotopes. Stable isotopes of elements, which differ only in atomic weight from the usual form of the element, can be fed to humans, animals or plants. The element may end up in the skin, hair or nails of an animal being tested, or in any part of a plant. It must be in some part that can be cut off since the spectroscopy can only be used on a small specimen that

is destroyed in the process. Gas or vapor, produced chemically from the specimen, is placed in the spectroscopy where it will intercept microwaves and cancel out those frequencies corresponding to the isotopes of elements it contains. Development of the microwave spectroscopy is the result of work done at the Research Laboratory of Electronics of the Massachusetts Institute of Technology.

During microwave research for the war, scientists working on radar discovered that certain wavelengths used in radar were absorbed by gases in the atmosphere. At the Radiation Laboratory at M.I.T. and at Columbia University, projects were started to find out what gases interfered with what wavelengths. It was found that water vapor and oxygen absorbed microwaves in such a way that they defined the limits of usable radar waves. After the war these discoveries led to work in the detection of gases by microwave spectroscopy and from there to the use of these waves in exploring matter.

Movements of as little as a hundred-thousandth of an inch can be detected with the "transducer," developed at the National Bureau of Standards. This device, which consists of a coiled spring whose turns separate one by one when the ends of the spring are pulled apart, is being studied by W. A. Wildhack and his associates.

When the spring is closed, it has the same resistance as a solid tube of metal. But when it is completely open, it has the resistance of the total length of the coiled wire. Since the change in resistance when the spring is stretched may be hundreds of times greater than the change in length of the spring, the transducer is a very sensitive way of measuring small displacements. An electrical instrument which measures resistance precisely is simply hooked up to the transducer and the change in resistance read. The transducer may be very useful both in industry and science in such things as strain gages, pressure elements, accelerometers, electric weighing devices, automatic temperature controls, direct current-alternating current inverters, and voltage regulators.

A new instrument for science and industry has given wavelength measurements in a previously unknown range of the invisible infra-red spectrum. Measurements of infra-red wavelengths up to 39 microns—a micron is .00003937 inch—were made at the National Bureau of Standards in Washington, Dr. Earle K. Plyler reported. A prism made of thallium bromide and thallium iodide was used for the study. The thallium bromide-iodide prism has extended the wavelengths in the infra-red region from approximately 25 microns for potassium bromide prisms and about 15 microns for sodium chloride (common salt) prisms.

The new prism gives scientists a new tool for studying materials in a range of the infra-red spectrum which they have not been able to explore before. It is not now available commercially, but it may find important industrial applications in the future for analyzing materials.

Photographic Techniques. A new and special kind of photographic plate was used to take pictures of mesons, small cosmic ray particles.

A new Ilford photo emulsion was developed to photograph the trail of these elusive particles in the laboratory of Dr. C. F. Powell, Bristol, England. This emulsion contains eight times as much silver bromide as older emulsions in order to magnify the path of a particle on the photographic plate. It also is loaded with boron, which prevents the tracks left by the particle from fading and makes the emulsion less sensitive to light.

Since prewar days it has been possible to take pictures of protons, deuterons, alpha particles and fission fragments on photographic emulsions, but until recently it has been very difficult to distinguish between the tracks left by the different particles. In addition, very light particles could not be traced because they did not have enough energy to leave much of a trail in the emulsion. Since cosmic rays are believed by scientists to come from outside the atmosphere of the earth, perhaps from the stars, plates to catch the traces of these rays in the form of mesons are exposed on the tops of mountains. Only when the meson actually ends up in the emulsion can one be sure that the trail in the emulsion is due to a meson and not any other particle. The plates after exposure are examined under strong microscopes by the scientists. By studying the plates they are able to determine the mass of the meson, evidences of nuclear degeneration and other facts which increase our knowledge of the hitherto little known cosmic rays.

Estimation of the amount of atomic energy elements, uranium and thorium, in rocks was done by photography. Dr. J. H. J. Poole and J. W. Bremner of Trinity College placed special nuclear research photographic plates in contact with flat surfaces of rocks cut with a diamond saw and left them there for one to three weeks. Stars with two to five rays appear in the photographs, caused by the alpha particles or the hearts of helium atoms that are given off from the radioactive elements.

Distribution of radioactive elements in rocks is shown to be very sporadic, especially in coarse-grained rocks like granites. The photographic method was originally suggested two years ago by Mme. Irene Curie Joliot, Nobelist herself and daughter of the Curies who discovered radium.

Electrons, known as particles of electricity, are the commonest of the fundamental bits of matter, and scientists work with them daily. Yet only now have electron tracks been definitely photographed. Eastman Kodak scientists have announced that tracks about two thousandths of an inch long—less than the thickness of this piece of paper—have been captured in a special photographic emulsion.

New Particle. A new subnuclear particle, this one bearing a magnetic charge instead of the more familiar plus or minus electrical charge of the proton or electron, was predicted by Dr. P. A. M. Dirac, the British mathematical physicist.

The new particle has yet to be observed in the laboratory, since its generation by an artificial atomic collision would require energies greater than provided by any present atom smashers. Neither has it been observed in cosmic ray studies, probably because no one was looking for it. Prof. Dirac once before, in 1931, predicted the existence of and properties for an unknown particle. That particle was the positron, and it was then actually discovered about a year later in a cloud chamber photograph by Dr. Carl D. Anderson of the California Institute of Technology.

Why add a new particle to the present long list, especially when the particles now known are so incompletely explained? Prof. Dirac raised that question, and then answered it by saying that the new particle is needed for theoretical reasons. It is needed, he said, in order to help explain why all electrons carry the same unit amount of negative charge. That electric charges, such as those on the electron, proton or meson, do occur in even multiples of the same electronic unit charge has been known experimentally for a long time. Still, there has been no adequate explanation of this even-multiple type of regularity.

Prof. Dirac now surmises that there is no explanation for the regularity apart from the existence of magnetic particles on the subatomic level. Moreover, if there exists even one of these particles in the universe, his theory requires all electric charges to be even multiples of the electronic charge.

The particle could be created in an artificial collision having an energy of 500 million electron-volts, it is estimated. This puts it out of range of even the 184-inch cyclotron at Berkeley, Calif., with its 400 million-electron-volt particles, which artificially created mesons. Thus, for the moment, search for such a magnetic particle will have to be made through cosmic ray studies, until the thousand-million-volt generators are completed.

What will it look like? In a cloud chamber, it should give a heavy track of uniform density through its path. This will help distinguish it from such tracks as those of alpha particles, which get denser as the particle slows to a stop. Also, in a strong magnetic field, the new magnetic particle should be deflected toward one of the pole-pieces, instead of running in circles as electrons and protons do.

Nobel Prize. Winner of the 1948 Nobel Prize for physics was Prof. P. M. S. Blackett, of Manchester University, England, "for discoveries in the field of cosmic radiation."

Last year Prof. Blackett presented to the Royal Society of London a mathematical relationship between electromagnetism and gravitation that arises out of the rotation of such massive bodies as the sun, earth and stars. This formulation was hailed as possibly as significant as the Einstein relationship between mass and energy which was given such powerful reality by the atomic bomb. Like $E = mc^2$, the Blackett formula has a cryptic appearance. In it there are: P , the strength of the magnetic field; β , a constant near unity; G , the gravitational constant; c , the speed of light; and U , the angular momentum or spin of a revolving body. In some laboratory at the present time an experimental test of this relationship may be under way, since Prof. Blackett proposed an experimental test. It would consist of revolving a large sphere quite rapidly and measuring its magnetic field.

Whether or not the Blackett formulation proves to be the basic connection between magnetism and gravitation, the earlier researches recognized by the Nobel award made important contributions to the understanding of the constitution of matter and radiation.

Surface Depth Measurement. A scientific instrument for the study of surface layers of metal less than a quarter-millionth of an inch thick may aid in the development of longer-wearing metals for aircraft engines and other products. Known as an electron diffraction instrument, the device was built by the general engineering and consulting laboratory of the General Electric Company. A beam of electrons, the negatively charged bits of atoms, is shot through the thin sheet of metal. The image made by the electrons is captured on a fluorescent screen or photographic film for study. Surface conditions such as corrosion and crystal structure are revealed by the image from the beam. Dr. J. G. Hutton predicted that the instrument will be important in metallurgical studies for electrical equipment and for research on a wide number of industrial products. The electron diffraction instruments are now in use in various laboratories.

To determine the depth of a liquid surface, scientists at the Stanford Research Institute developed an instrument, as yet without a name, which measures the minute distortion of polarized light re-

flected off them. This depth is not a matter of purely scientific interest; it has a practical value in the fields of lubrication, oil exploration, and biology, in fact wherever the reaction of liquid surfaces in contact with other materials is a factor. The method of measuring the depth of a liquid surface was carried out by Stanford scientists working on a Naval Research contract under Dr. A. Paul Brady, research director, and the over-all supervision of Dr. J. W. McBain, consultant on research. Two others who assisted were Dr. J. C. Henniker and Dr. Frank A. Lucy.

Classical mathematical theory assumed liquid surfaces had no depth. General scientific opinion for the past several decades thought the depth to be a thousand-millionth of an inch rather than the one-millionth now claimed. This belief was based on the assumption that attraction between molecules in the liquid was effective only over this very short range. The new research is claimed to prove that molecular attraction takes place over a wider range than ever proved before. Dr. McBain explains the action by comparison with that of the ordinary magnet. It has a short direct attraction on a cluster of nails, but can pick up a series of them, one hanging to another. Molecules in a liquid surface, he believes, polarize several neighbors and these in turn polarize others. This chain-like relayed action extends over what he calls an "impressive distance."

Semi-conductor. A bit of semi-conducting germanium metal that amplifies or oscillates current without the complexity of plates and wires in an airless bulb and is called a transistor should make possible more stable and durable radios, television sets, and electronic devices. Radios may be made smaller when the new cylinder, slimmer than a pencil and less than an inch long, comes out of the development laboratories into production. Because the new device has no filament that must heat up before it operates, it goes into action instantly. It will do some things that conventional vacuum tubes can not do. This means new electronic devices.

Invented at Bell Telephone Laboratories, the transistor's operation is possible because the ability of a semi-conductor to carry electrical current can be controlled. This is done by changing the electronic structure of a small bit of material under the influence of the incoming current, fed to it through a fine "cat's whisker" wire. The current coming out of the other wire, just about two thousandths of an inch away, is boosted in volume a hundred-fold.

Dr. John Bardeen and Dr. Walter H. Brattain made the key investigations in the Bell Telephone Laboratories that produced the transistor, while the program was initiated and directed by Dr. William Shockley.

Since electrical speech waves traveling between telephones can be amplified, the transistor will probably replace the vacuum repeater tubes now used on long distance and other telephone lines. A superheterodyne radio set with about a dozen transistors instead of conventional tubes has been demonstrated and probably is the forerunner of a new family of radios. Because it can oscillate as well as amplify, the transistor will be used to produce standard frequency tones and for other similar uses. Germanium metal specially treated is the semi-conducting material used, but other semi-conductors include silicon, some metallic oxides and other compounds. Semi-conductors have electrical properties intermediate between those of the metals and insulators.

Semi-conductors, copper oxide and selenium

have been used previously to rectify alternating to direct current, and silicon has been used as a detector, particularly for microwave radio apparatus. The transistor as now developed has a frequency limitation of about 10 million cycles per second, but it is quite satisfactory in the television ranges.

By knocking holes of positive electricity in the unusual metal germanium with an atom-smasher, Purdue University physicists have created a new kind of substance that promises to be useful in rectifying electricity and converting light into electrical effects. Dr. K. Lark-Horovitz reported that with the Purdue cyclotron new types of electrical "semi-conductors" have been produced which promise to have varied applications in the field of radio, radar, and microwave.

Very pure germanium metal was bombarded with deuterons accelerated to 10 million volts. Although the attack was for only a few seconds, lasting changes were produced in the metal, and the resistance of the metal was increased tenfold. "Holes" which behave like electrons that are positive electricity, instead of the usual sort of negative electricity, are created by the bombardment and this leads to new phenomena which allow the use of the bombarded material as rectifiers, photo-sensitive devices, and for other possible uses.

The bombardment dislocates permanently atoms from their regular positions in the metal, and when these atoms are dislocated they are able to take up electrons from the internal structure of the metal and produce in this way some holes that for all practical purposes behave like positive electrons. Half of a piece of the metal can be bombarded and made to conduct electricity by means of the positive holes and the other half can be left alone, conducting in the ordinary manner. This makes a rectifier that can yield direct current from alternating current. The sharp boundary between the positively and negatively conducting regions is extremely photosensitive and can be used to convert light into electricity, particularly in the invisible infra-red regions of the spectrum.

Other nuclear particles are being tried in a similar way for their effects on germanium and other substances. The hearts of helium atoms, called alpha particles, have already been found to produce strong effects. Drs. E. Bleuler, R. Davis, and D. Tendam were members of the Purdue cyclotron group making the experiments.

Magnetic Clutch. Magnetic oil is the key to a new automobile fluid clutch revealed by the National Bureau of Standards. Its development is a discovery of number-one importance. The oil contains millions of tiny particles of iron dust or other magnetic material. The car electric system magnetizes them as needed.

This new magnetic fluid clutch is very simple. It has three elements only; a driving shaft with a plate at its end, a driven shaft and plate, and the iron-saturated oil between. When a magnetic field is established between the two parallel plates, the magnetic particles form chains which bind the two plates together as tightly as if they were held by strong spring clamps. Operation of the clutch is described as extremely smooth and without "chatter." The locking force is practically constant, and the bond between the two plates is a function of the gradual increase of the magnetic field, which is electrically controlled. The relation between the amount of magnetization and the bond between the plates is independent of speed. There is no point at which the clutch suddenly tightens to produce a jerk. Slippage is completely eliminated.

This magnetic oil may be used in brakes as well as in clutches, but according to its inventor, Jacob Rabinow of the Bureau staff, it has other applications which may be even more important. These are in servo-mechanisms, instruments to translate electronic "information" into appropriate action in purely mechanical equipment. Such devices are used for power steering of large trucks, tanks, steamships and airplanes. They are also used in printing presses, power machinery, for the control of radar antennas, gun direction control, and in high-speed electronic computers.

Since the amounts of electric power required to control the magnetic fluid clutch are small, it is a simple matter to interlock the electrical circuits with the speed, throttle setting, and power demands. It has been found by experiment that the nature of the oil used has relatively little bearing on performance. Hence silicone liquids may be employed with excellent results, enabling the clutch to operate at both very low and very high temperatures.

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See CHEMISTRY, NUCLEAR ENERGY, PHOTOGRAPHIC PROGRESS. —WATSON DAVIS

PITCAIRN ISLAND. A British island colony in the Pacific, midway between South America and Australia (25° 3' S. and 130° 8' E.). Area: 2 square miles. Population (1946): 126. Pitcairn was originally settled in 1790 by mutineers from H.M.S. *Bounty*. Included in the district of Pitcairn are the islands of Ducie, Henderson, and Oeno. Agricultural products: yams, taro, maize, sweet potatoes, bananas, pumpkins, oranges, melons, pineapples, arrowroot, sugar, and coffee. The administration of Pitcairn is under a chief magistrate, subject to the High Commissioner for the Western Pacific.

PLANNED PARENTHOOD. Growing awareness of vanishing resources and soaring birthrates was responsible for international as well as national interest in an expanded Planned Parenthood program. One indication was the International Congress on Population and World Resources in Relation to the Family held in Cheltenham, England, which drew leaders in three fields: (1) scientific and social inquiry, (2) biological and medical research, (3) organizational activity in the promotion of Planned Parenthood. Mrs. Margaret Sanger was chairman of the American Committee for the Congress.

Mrs. Sanger described the purpose of the Congress as a united effort "to seek an alternative method of population control to nature's old standbys of war, famine and epidemics. Delegates from many nations are meeting under the auspices of the British Family Planning Association to exchange information and discuss policies which must be adopted to restore some sort of sane balance between numbers of people and food resources."

At the final session of the conference a committee to promote birth control on an international basis was formed. It was planned to have the committee consist at the outset of the representatives from the chief birth control organizations of the United States, Great Britain, Sweden, and the Netherlands with headquarters in London. The committee was formed to "promote research and education for the furthering of human welfare through planned parenthood and progressive sex education."

A major step towards worldwide birth planning was made possible as the first comprehensive program on research in human reproduction began its active work. Nine research studies were started on factors governing fertility control and problems of infertility in laboratories across the United States.

The research studies were recommended by the National Research Council's newly formed Committee on Human Reproduction to the Board of the National Committee on Maternal Health. The Planned Parenthood Federation of America is one of the three collaborating organizations. Funds for the research were largely raised through its efforts.

As a result of the dearth of scientific work in fertility control many of the applications from scientists so far have been related to infertility studies and to fields other than conception control. Plans were made however, for a scientific conference in 1949 sponsored by the National Research Council. Since it is the first such national meeting to be held in the United States on this subject, it should help to stimulate the interest and support of scientists in developing conception control research.

According to a poll representing the opinion of over three million women that was conducted by the *Woman's Home Companion*, three-fifths favored making birth-control information available to all adults without legal restrictions. Nearly all the rest according to the magazine "are either for making the information available to all married women or else for legally permitting doctors to give out such information whenever they think it's needed to safeguard a patient's health. Only three percent, not even a twenty-fifth, say birth control should be legally forbidden to everybody."

The birth control referendum to allow physicians to prescribe contraceptives to married women whose health in the judgment of the physician required it, was defeated in the 1948 Massachusetts election. The vote was Yes—806,829; No—1,085,320; blank ballots on this issue—263,168.

The aim of the measure was to place contraceptive advice in the hands of the medical profession. It was endorsed by more than one thousand Protestant and Jewish clergy and by a majority of the resident members of the Massachusetts Medical Society. Four thousand volunteers in 300 local committees campaigned to repeal the State law.

Two days after the election, Mrs. Walter E. Campbell, president of the Massachusetts League issued this statement: "We are confident that it will not be long before this merciless law is amended, for Massachusetts cannot fail to demand the same skilled medical advice for its mothers that is now available in 46 other States; family life is too sacred to let anything stand in the way of its highest fulfillment. Massachusetts citizens have too much respect for the wisdom of the medical profession to allow our doctors to remain shackled . . . a firm foundation has been built upon which we shall unite in our continuing fight to implement the civil right of every individual and every religious group to follow the dictates of their own conscience."

In order to broaden the use of conception control in public health, a demonstration was developed to evaluate the practical efficiency of existing, simple contraceptive methods. This project has met with the acceptance of a cross-section of private medical opinion and State health departments. The need for such a study was indicated since approximately only five percent of patients attending pre- and post-natal public health clinics receive contraceptive information.

The fourth annual Lasker Awards in Planned Parenthood went to Dr. John Rock, Harvard Medical School and Director of the Fertility and Endocrine Clinics and to Dr. Richard N. Pierson, former Federation president and chairman of the Medical Committee.

In 1948 the Planned Parenthood Federation was the national agency and clearing house for 15 State leagues and 168 local committees. The birth control clinics in the United States numbered 557. These services were in 242 public health clinics, 62 hospital clinics, 210 extra mural clinics and 43 referral services. Of the 58 fertility clinics in the United States listed with the Federation, 13 were under Planned Parenthood direction. The special contribution of the extra mural clinic supported by expanding public education, was revealed in a patient load far in advance of the combined totals for both hospitals and public health clinics. The 183 hospitals and public health clinics which reported gave a total of 10,457 patients while the 165 extra mural clinics reporting exceeded the figure by 115,539.

—CHARLES E. SCHUBNER

PLASTICS. There are several significant factors in plastics' growth that should become more distinctive in the immediate future. Although molding and extrusion compounds are now the dominant factor insofar as chief outlet is concerned, the sum total of all other uses may grow even faster than the molding branch. Applications in adhesives, laminating, calendering, coating, and uses of resin or celluloses for textile and paper treatment as well as with wood waste, could eventually become the plastics industry's greatest contributions to the nation's welfare.

In the molding and extrusion industry alone, great significance attaches to the ever-growing prominence of thermoplastics which in 1945 exceeded thermosetting molding-compound consumption for the first time in history.

According to statistics published by *Modern Plastics* magazine, the estimated production of synthetic resins in 1948 totalled 1,400 million lb. Phenolics, with a 300 million lb. total, again led the plastics industry in total consumption but with a slight decline from 1947. Vinyls of all types showed a healthy increase of from 184 million lb. in 1947 to 230 million lb. in 1948. Polystyrene came along fast, particularly at the end of the year, to approach 150 million lb., a 55 percent increase over 1947. The entire plastics industry moved ahead by a little less than 10 percent in 1948 over 1947.

A new thermosetting molding-compound based on a polyester type resin was introduced during 1948. This compound embodies several features which make it extremely attractive to molders seeking high-speed production. It is extremely fast curing and requires relatively low pressures for molding. Its outstanding properties are dimensional stability, resistance to heat, and extraordinarily high arc resistance.

Styrene-butadiene copolymers made with a high proportion of styrene were developed by several firms. These are horny substances which at ordinary temperatures have none of the elastic qualities of rubber. They are compounded with rubber to produce compositions characterized by toughness, high impact strength, and heat resistance. Primary applications are in shoe soles, floor coverings, golf ball cover stock, football helmets, shipping containers, and carrying cases.

New copolymers of styrene and isobutylene produced by low temperature polymerization were announced during 1948. They exhibit rubberlike elastic properties in addition to their thermoplastic characteristics. They have a broad softening range, mix well with waxes, are easily processed on conventional equipment, and have low permeability to moisture and gases. Their films are especially

suitable for the packaging of fresh and dried fruit which require retention of moisture and controlled transmission of oxygen and carbon dioxide during prolonged storage.

Polystyrenes with improved light stability, toughness, and heat resistance were announced at the National Plastics Exposition. The first is directed toward resistance to yellowing when used indoors or when the product is not exposed directly to the weather, as in automobiles. The impact strength of the new tough styrene-type resin is three to five times greater and the elongation 10 times greater than the corresponding values for regular polystyrene. The increase in heat resistance of one type of polystyrene is attributed to more precise control of molecular chain forms in the polymer as a result of the application of principles discovered in the course of fundamental research.

Commercial production in limited quantities of polymonochlorotrifluoroethylene (Kel-F) was announced. It combines chemical inertness and toughness over a wide temperature range (-320 to 390°F.) with ready fabrication in conventional equipment. With production capacity for polyethylene more than tripled during the year (from 15 million to approximately 55 million lb.), interest in this versatile plastic continued to mount. It possesses an unusual combination of desirable qualities; namely, high dielectric strength, light weight, flexibility at low temperatures, chemical resistance, low water-vapor permeability, freedom from taste and odor, non-toxicity, transparency, and ease of fabrication without plasticizer.

Although rubber and plastics compete for many markets, the trend toward using the two materials in combination to achieve superior performance continues. A polyblend stock made by colloidal blending of polyvinyl-chloride resin and butadiene-acrylonitrile rubber possesses properties heretofore obtained only by mill mixing. By varying the ratio of nitrile rubber and polyvinyl chloride, products ranging from hard plastic materials to soft rubberlike compositions are produced. Thermoplastic tubing and hose can be made which are superior to plasticized elastomers in dimensional stability when aged at high temperatures and, in addition, are not subject to stiffening because of plasticizer extraction. Such tubing can be used for transferring beverages, gasoline, oils, solvents, and industrial chemicals.

The development of a flame-resistant cellulose acetate molding compound meeting Underwriters' Laboratories requirements was announced. This material is based on high acetyl cellulose acetate and is in use for electric mixer and shaver housings, blanket switches, vacuum cleaner parts, and the like.

Phenolics. A sharp slump hit the phenolic molding industry in the late spring and summer, with the result that molding-powder consumption for the year dropped off from almost 200 million lb. in 1947 to 180 million lb. in 1948. All other phenolic classifications held about even with 1947. Consumption was back up to around 16 million lb. in the fall. The mild shock administered to phenolic molders by this slump will probably serve as a stimulant to developing new business. In the shortage years, new uses did not grow, but now healthy growth of uses will further develop the industry.

Indications that new products are under way can be found in tool shops where molds are under construction, but most of them are still in the confidential stage. One that points up the tendency to mold larger pieces is a dresser-drawer to be mold-

ed from wood-filled compound. The same thing was tried unsuccessfully years ago, but new techniques now make it look practical. From dresser-drawers to other pieces of furniture and large-size moldings is only a step. A kitchen cabinet for attachment to walls is another probability.

Work on molded laminates is also progressing nicely, with such items as window frames and stair tread and riser covers under consideration. Even a small piano with a molded soundboard is a possibility. These things may be out of line for most compression molders, but it has been a frequent incident in this industry to have new products come from the hands of men who "didn't know it couldn't be done."

There are, of course, many possibilities in the phenolic field aside from molding. These include such things as brake linings and abrasive bondings which have grown so large that the materials manufacturers have set up separate departments to handle them. Mineral wool bonded with phenolic liquid resin is now manufactured by more than 10 companies. Floor coverings frequently employ a phenolic binder. Honeycomb cores for laminating to aluminum or plywood for structural panels haven't gone as far ahead as expected but are still a promising possibility.

Most exciting of all current possibilities is the use of phenolics with wood. A phenolic-treated paper for surfacing plywood that will withstand severe weathering was announced during the year. Its structural use seems assured. Then there is a wood laminate coming along that may fit in particularly well in the construction and furniture fields. It consists of a core of Southern pine, a cross-wise layer of a phenolic-impregnated paper, and a layer of aluminum with a phenolic-paper coating on each side, the entire structure being faced with wood veneer of any type desired. The resulting laminate will compete price-wise with any material intended for similar uses.

Still another, and perhaps eventually the biggest, use of phenolics in the wood field is in combination with sawdust and scrap. It is claimed that a product employing 10 percent or less resin can be made for 6 cents a board foot, or about \$60 per M board feet, and can be used as lumber in most any application where wood is needed. Resin producers estimate they will be selling at least 1 million lb. of resin a month for this material by the end of 1950.

Vinyls. Capacity has skyrocketed to an estimated 250 million lb. annual production of vinyl resin—some researchers say even more. Improvements in vinyl materials and technique are matters of almost week-to-week development. Research on plasticizers is continuing to solve problems of brittleness at low temperature, migration, and spewing. Better stabilizers to improve heat and sunlight resistance are promised for the near future. Heat sealing of vinyl film is not yet foolproof, and there is considerable difference of opinion as to where the most improvement can be made.

One of the outstanding examples of better heat-sealing techniques is found in raincoat production. Sewing of vinyl film was never particularly successful because fabricators were slow to learn that vinyl required a different technique than fabric—that round needles, long stitches, and nylon thread should be used. Sewn under-arm seams and button-holes pulled out. Heat sealing lessens the tendency for seams to open up. One raincoat manufacturer eliminated all sewing; used snaps or zippers instead of buttons and double layers of vinyl to reinforce the pockets, zipper, or snaps; sealed on a hanger strip at the back of the neck; used the new

metallic colors to give style and newness—and sold 200,000 raincoats in the first five months of 1948. Each raincoat required about 1 lb. of compound.

There has been a tendency for vinyl-coated fabric to move into more competition with unsupported sheeting now that the fabric is in better supply and cost is down slightly. There are authorities who insist that the trend toward coated fabric will become more noticeable in 1949, especially in the upholstery field where some upholsterers claim they want the added strength imparted by fabric. Unsupported sheet boosters, on the other hand, insist that proper technique in applying the sheet will eliminate tearing and that coated fabric does not have the drape or luxurious feel of unsupported sheet.

It seems quite obvious that pyroxylin-coated fabric is now suffering from the impact of vinyl and will suffer more. It has been further estimated that the upholstery market would use a total of some 40 million yards of vinyl material and less than 8 million yards of pyroxylin-coated cloth in 1948. The automobile industry, however, still seems to be using about 50 percent pyroxylin-coated material for inner linings, trim, tops, kick plates, etc. Estimators figure that every automobile in the country averages about 2 yards of coated or unsupported material; taxis may average 8 to 10 yards. Pastes and plastisols are growing in acceptance in the vinyl part of these applications, with coated fabric running a close race to catch up with unsupported sheet.

Vinyl treatment or coating of paper dropped off in 1948 because of the resurgence of oilcloth for which vinyl-coated paper had been pinch-hitting. However, the latter is on the market to stay. Consumers still like it as shelf paper, etc., but competition is at work. This category is expected to increase again in 1949 when vinyl-coated paper window drapes make their impact on the market.

The molding and extrusion division of the industry is still dominated by wire and cable insulation. Extrusions such as belts and garden hose may account for 10 million or 12 million lb.; some 30 percent of all garden hose produced in 1948 is estimated to be vinyl.

Polystyrene. Record-breaking consumption of around 15 million lb. of polystyrene a month in the latter part of 1948 presages another record-breaking year in 1949. The near 150 million lb. total in 1948 represents a 55 percent increase over 1947 and that year was 42 percent over 1946.

An important factor in the big poundage for 1948 was the steadily-increasing size of molded pieces. The refrigerator industry in particular is using large numbers of crispers, baffles, throat pieces, and other fixtures, with one baffle reported as containing 30 oz. of polystyrene and having an area of 364 square inches. Refrigerators now frequently employ at least 8 to 10 lb. of polystyrene each; they now account for the largest poundage of polystyrene, with housewares running second.

Among other large moldings are pastel-colored toilet seats. They are not cored out like many other plastics seats, but are solid pieces weighing almost 5 lb. A 9½ lb., one-piece battery case is another large-size article. Polystyrene producers insist that their material has permanently taken over a good portion of the radio cabinet business. Color is a deciding factor in many cases. Higher heat-resistant polystyrene has been helpful because it allows more flexibility of design; but if good ventilation is incorporated in the design, standard polystyrene is adequate.

Molding powder still accounts for over 90 per-

cent of polystyrene production, but other things are beginning to develop now that material is available for experimentation. Extruded polystyrene, which may currently account for from 2 percent to 5 percent of all consumption, is developing slowly but apparently with promise. Filaments for brushes and brooms have been on the market for some time—improved technique will undoubtedly increase uses and volume within the next year or so. Large-size extruded sheets are now being tried as over-lays on refrigerator inner-door panels and have also been suggested as wall board to replace tile, as dashboards in automobiles, and in other sizeable pieces. A polystyrene paper-base laminate is also a possibility, not for table tops, but possibly for walls.

Cellulosics. Confronted with serious competition from other materials, cellulosic molding materials fell off again in 1948, but producers feel confident that the spurt evidenced in the latter part of the year will continue on into 1949 and beyond. Even though other thermoplastics also spurted at the same time to indicate a general uplift in all injection-molded products, the cellulosic increase in the fall to around 4.5 million lb. a month (exclusive of ethyl cellulose) from a low of 3.4 million lb. in June and a high of 4 million lb. in March indicated that cellulosics were in a stronger position.

Pointed out as typical applications for cellulosics in the toy field, for example, are miniature vehicles which are required to take a lot of banging around—motor housings for toy building sets, dolls, gun stocks—anything that must withstand the punishment resulting from youthful exuberance. Further, as another example, butyrate is now the most commonly used plastic in telephone bases. Other cellulosics are under experiment for the handpiece, and the possibility of using colored cellulosics for both molded base and handset suggests a possibility for employment of big poundage. A variation of this is found in colored acetate and butyrate sheaths for phenolic phone-set bases.

Development of a flame-resistant acetate to meet Underwriters' Laboratory specifications is expected to be a boon to acetate, particularly for use in housings. Housings and parts for electric shavers, lightning arresters, Christmas-tree lights, cake mixers, and vacuum sweepers have already been successfully molded of this material.

By and large, the acetate and butyrate producers expect to get a larger percentage of the injection-molding-material business than they did in 1948 and are confident that it won't be long before their poundage surpasses the record 1946 figure of 83 million lb. Producers of acetate have no hope of ever approaching the polystyrene total poundage figure, since that material has captured many markets never fitted for acetate. Nevertheless, there is a belief that the acetate situation will improve in both price and properties.

Probably the decline or standstill in film and sheeting was more disappointing to the cellulosics industry than the decline in molding material. It is probably explained by the accident which incapacitated a principal producer's plant early in the year, but still there has not been the expansion expected in this branch of the industry.

Saran. Sales of saran, vinylidene chloride polymers, increased around 100 percent in 1948 over 1947. Screen cloth, woven from saran monofilament, was reported to have taken from 30 to 40 percent of the total output. Volume of sales for the year ending June, 1948, was approximately the same as the corresponding period for 1947. Extruded saran pipe is making slow, steady gains,

but usage thus far is limited primarily to chemical and industrial plants and generally only when corrosion is a problem. Problems in molding and in the larger-size extrusions, due to the specific gravity of saran, along with fabricating difficulties, are still holding up any large-scale development for molded and extruded parts.

Polyethylene. A "sleeper" in the plastics industry may well be polyethylene, or Polythene, as it is called by one producer. It has been held back because there was not enough material to supply demand. But the 17 million or 18 million lb. available in 1948 will probably be advanced to more than 50 million lb. in 1949 if expanded facilities which were completed in 1948 are operated at normal rates.

A versatile material with some properties that eclipse other plastics, polyethylene has wide ranges of usefulness. It is the lightest in weight of all plastics; it will float on water; electrical properties are superb; chemical resistance is high. In fact, the latter two properties are handicaps in some cases because of their excellence. The electrical resistance is so great that polyethylene cannot be electronically heat sealed; its solvent resistance makes it difficult to adhere to other material or to print on. It has very low moisture absorption and remains flexible at low temperature.

First, and still most important outlet for polyethylene is in the electrical insulation field. Somewhere near 2.5 million lb. a month may soon be used for that purpose if present applications continue to expand. Best known is the $\frac{3}{8}$ -in. diameter disk used as coaxial cable-spacers—there are as many as 506,000 disks per mile in a typical cable.

The largest potentiality of all in some estimators' opinions is polyethylene film. Extruded in thicknesses of from 1 mil up and as wide as 54 or 72 in., the 2 mil film can be sold at 75 cents a lb., or 1,000 sq. in. for about 5 cents, in comparison to 1,000 sq. in. of moisture-proof cellophane in 1.4 mil thickness at from 4.8 to 5.6 cents per M sq. in. In cast film, the polyethylene cost would be about \$1.00 per lb. Extruded tubing and pipe with molded valves and joints is also a growing business for polyethylene. Ease of processing and chemical resistance make such products ideal for chemical, paper, and textile plants where corrosion is a problem.

Acrylics. The poundage of acrylic in comparison to the total poundage for the entire plastics industry is small, yet acrylic is so popular and its uses are so spectacular that the trade names Plexiglas and Lucite perhaps symbolize "plastics" to the public more than any other coined names.

Acrylic production today is probably less than half of wartime consumption, when it was slightly over 30 million lb. Acrylic molding material used primarily for automotive applications, high-style boxes and ornaments, brush backs, high-grade costume jewelry, and similar "class" applications, probably totals less than 1 million lb. a month. At least 50 percent of present usage is reported as being in automotive applications—horn buttons, escutcheons, radiator ornaments, stop-light lenses.

An interesting new molded application is in letters used by oil companies for signs for stations and trucks. One producer is molding letters that are $\frac{1}{8}$ in. thick and vary from 6 to 15 in. in height. They can be molded at less cost than fabricated because of the quantity needed. The biggest letter reported uses around 12 oz. of material and is molded on a 16-oz. injection press.

Urea and Melamine. The 1948 pattern for urea-molded products did not show much change from

former years. One of the first jobs since molding powder came into free supply has been to get back whatever end-products may have been lost to other materials when urea was difficult to obtain. Radio cabinets, molded containers or boxes, and various types of housings should soon be appearing again in urea, more frequently than in the past three or four years.

Buttons and closures now require an estimated 40 percent of the urea and melamine output, with buttons alone accounting for 25 percent. Such items as scales, business machines, instrument and clock housings, electrical apparatus, children's toys, dishware, and stove hardware seem firmly established in urea or melamine.

Probably the biggest news in melamine molding during 1948 was the increased popularity and sales of melamine dishware for both commercial and home use. There are a few complaints from users about various difficulties, but none of them seems without remedy. A cafeteria survey, where the dishes had been on test for nine months, reports a tableware replacement of 0.0013 cents per meal, or around \$700 for that period, for melamine dishes, compared to a replacement cost of from \$1,500 to \$1,700 a year on china. Many of the replacement losses on melamine were suffered when the dishes were carried off by customers!

Use of melamine and urea in wet strength paper has increased at least 20 percent over 1947. Bags, toweling, blueprints, crate liners for vegetable shipping containers, and paper drapes are some of the chief outlets. Melamine laminates increased for decorative purposes during 1948 and are due for further expansion when builders learn that the higher initial cost of laminated window sills, doors, trims, etc., is soon paid for by low maintenance cost. Television sets, furniture, and elevator cars are good volume potentials for laminates. In one factory as many as 1,000 tables a day have been made with melamine laminated tops.

Use of melamine in textiles for shrinkage control, water repellence, and wrinkle resistance, continued to advance. Shrinkage resistance in wools is presently limited to woven goods such as shirts. A kindred application is in felt belts for paper mills where treated felt will last some 13 days in comparison to a former life of 7 days.

Nylon. Development of nylon as a more widely used injection-molding material was held back several years by scarcity, price of \$1.60 a lb., and lack of interest by molders who were busy with other things and thought they didn't have time to learn new techniques. But 1948 witnessed a revision of molders' opinions. Today there are at least 50 molders who can or have molded nylon products successfully.

Molded nylon coil-forms no more than 0.005 in. thick will withstand the tension of electrical wire wrappings and the heat used to bake an insulating varnish over the finished coil. Millions of coil-forms are produced annually. They range in size from tiny ones that might be placed three on a thumb-nail to some that are 4 in. in diameter. One molder is now selling them for less than other plastic forms. His economy comes from injection molding and a paucity of rejects—he can mold to minute tolerances.

Nylon dishware in use in State and government institutions can stand abuse and can be sterilized. Similar applications in restaurants and homes might logically follow this development but have not as yet. Nylon monofilament for brushes, fishing leaders, sutures, tennis-racket strings and even harp strings, is not quite equal to molding powder on a

poundage basis, but is constantly growing. The market for all bristles, animal or synthetic, has grown rapidly. From 2 million to 3 million lb. of bristles were imported before the war and about 6 million in 1947, according to one authority. Four million lb. are used for paint brushes in a year. Nylon bristles are now employed in about 10 percent of all master paint brushes.

—CHARLES A. BRESKIN

POLAND. A central European republic, established Nov. 9, 1918. It was invaded by Germany Sept. 1, 1939, partitioned between Germany and the U.S.S.R. by the treaty of Sept. 28, 1939, and completely occupied by German forces after the outbreak of the Russo-German war on June 22, 1941. The liberation of Poland, begun early in 1944, was completed in the spring of 1945.

Area and Population. The territorial limits of the new Poland have not yet been finally drawn. Within the provisional boundaries fixed by the Yalta and Potsdam Agreements, the country occupies an area of 121,131 square miles, with an estimated population of 24,200,000 on July 1, 1947 (23,929,800 according to the census of Feb. 14, 1946). Capital, Warsaw (est. population on Mar. 1, 1948: 585,470). Populations of other important cities in 1947: Lodz, 596,000; Cracow, 303,000; Poznan, 268,000; Wroclaw (Breslau), 201,000; Gdansk (Danzig), 170,000; Katowice, 128,000.

Education and Religion. Elementary and secondary education, up to the age of 18, is compulsory and free. In 1947, there were 3,260,000 pupils in elementary schools; 225,200 in secondary schools; and 97,755 students (32,904 of them women) at universities and other institutions of higher learning. The population is chiefly Roman Catholic.

Production. In the new Poland, agricultural and industry are fairly balanced as the principal sources of national income. An important exporter of foodstuffs before the war, Poland was a food deficit country in 1945-47, but made a good start toward regaining its former role in 1948. Bumper crops of wheat, rye, barley and oats were harvested in 1948, bringing the total cereal yield to about 11 million tons, as compared with 4 million tons in 1947. Poland now ranks as one of the world's foremost coal-producing and exporting countries. In 1947, the output of coal was 59,130,335 tons, as compared with 47,288,000 tons in 1946 and 20,183,000 in 1945. The target figure for 1948 was set at 80 million tons. In the first six months of the year, 33,400,000 tons were produced. Poland is also an important producer of iron and steel. The output of raw steel, in the first half of 1948, was 926,600 tons, compared to 1,220,000 tons for the whole year of 1946.

Foreign Trade. According to official estimates, Poland's foreign trade in 1948 exceeded the \$1,000 million mark, almost doubling the country's 1947 share in the international exchange of goods.

Government. A permanent new constitution has not yet been drawn up. By and large the original constitution of 1921 is being applied, with some important modifications. Theoretically the Sejm, or parliament, is the supreme organ of the state. In the 444-man Sejm, elected on Jan. 19, 1947, the (Communist-controlled) Government bloc holds 383 seats. Since March, 1947, a five-man state executive council, headed by the President of the republic, has been empowered to rule by decree between parliamentary sessions, subject to the Sejm's approval of the laws thus passed. President, Boleslaw Bierut, elected Feb. 5, 1947, for a term of seven years; Premier, József Cyrankiewicz.

Events, 1948. Three international developments left a strong imprint on Polish affairs in the year under review: the exacerbation of the East-West conflict; the Communist coup in Czechoslovakia; and the Tito "heresy" in Yugoslavia.

In all three cases, Poland slavishly adhered to the Moscow line, though not without some internal convulsions. By the end of the year, there was hardly any shred of doubt left as to Poland's complete domination by the Communists of strict Muscovite observance.

Poland's primary importance in the "Molotov Plan" for European Economic Recovery, as opposed to the Marshall Plan, was highlighted by a state visit to Moscow early in 1948 and the comprehensive Russo-Polish treaty that sprang from it. On Jan. 13, Premier Joseph Cyrankiewicz, Vice Premier Wladyslaw Gomulka, Minister of Industry Hilary Mine, and his deputy Ludwig Grossfeld departed for Moscow where they spent two weeks conferring with Soviet leaders on political, economic and international problems. They were joined later by Marshal Michael Rola Zymierski, Polish Minister of National Defense and Commander in Chief of the Army, indicating that military topics were also under consideration. The only announced outcome of these talks was a five-year trade treaty providing for a total turnover of \$1,000 million and granting Poland an investment credit of \$450 million for capital goods to be purchased from Russia in the period 1948-56. It was pointed out that this figure represented the largest credit ever granted by the Soviet Union to a foreign country.

Rapprochement with Czechoslovakia. The Communist coup in Prague, in February (see CZECHOSLOVAKIA, under *Events, 1948*) opened the way for close political and economic cooperation between Poland and Czechoslovakia. Such a rapprochement of the two countries, which in the past often had been rivals, had long been sought by Moscow as a means of strengthening the Soviet satellite system in Eastern Europe. Previously, however, the different political hues of the regimes in Warsaw and in Prague had been an obstacle; the Czechs thought Poland was a bit too strongly tied to Russia's apron-strings, while the Poles were not sure of Czechoslovakia's undivided loyalty to the Soviet orbit.

One of the first actions of the new Czechoslovak Foreign Minister Vladimir Clementis was to pay a visit to Warsaw, on March 13. A comprehensive accord on economic cooperation resulted from his talks with Polish officials. Potentially the most important feature of the agreement was a plan for the joint establishment and operation of an East European "Ruhr district" in Upper Silesia. Detailed plans for this huge industrial venture were announced on August 8 in a communique of the Polish-Czechoslovak Economic Cooperation Council.

The new industrial combine is to be centered in the area between Katowice in the Polish, and Moravska Ostrava in the Czech portion of Silesia. The arrangement envisages the construction, within the next twelve years, of a number of large new steel works and power plants. According to some reports an annual steel production of 4 million tons—largely based on iron ores imported from Sweden—is being aimed at. The two countries also announced that they intended to coordinate their foreign trade policies, in order to avoid "unhealthy competition" in foreign markets.

The Warsaw Conference. Several international meetings and rallies were held in Poland during the year. The most important of these was the For-

eign Ministers' conference on Germany which convened at Wilanow Palace near Warsaw on June 24. Organized in open opposition to the Western powers' London Conference on Germany (see GERMANY, under *Events*) the Warsaw meeting was attended by the foreign ministers of the eight "Soviet bloc" states: Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, the U.S.S.R. and Yugoslavia. The communique issued at the close of the conference was devoted mainly to a sharp attack on the London decisions, which "do not aim at preventing the possible recurrence of German aggression, but rather at transforming the western part of Germany, and especially the heavy industry of the Ruhr Basin, into an instrument for rebuilding the military potential of Germany . . ."

In line with current Soviet policy, the Warsaw communique deplored the "breaking up and dismembering of Germany" by the Western Allies, a policy which was said to "make impossible the conclusion of a peace treaty with Germany, without which there can be no end to the prolonged state of war and the occupation regime in Europe." The communique was silent, however, on plans for the establishment of an East German government, which the Russians were reported to be favoring, while the Poles were said to be opposed at this time.

In connection with the Warsaw Conference, the Polish Government on June 18 formally protested in Washington, London, and Paris against the six-power decisions on Germany, contending that these decisions violated the Potsdam Agreement and that they failed to take Polish interests into consideration. The American and British Governments simultaneously rejected these protests on July 7. The American note pointed out that Russia, not the Western powers, was responsible for the breakdown of quadripartite control over Germany and advised the Polish Government that its complaint "should more appropriately be addressed to the occupying power responsible for the present deplorable division of Europe and Germany."

On a different level, the East-West feud was waged with no less bitterness at the "World Congress of Intellectuals" which was opened at Wrocław (Breslau) on August 25. Western representatives were in a decided minority at this convention, which engaged in denunciations of alleged American imperialism and warmongering.

Gomulka's Fall from Grace. On the domestic political scene, Tito's rebellion against the Kremlin had unexpected and far-reaching repercussions. As in Yugoslavia, the Polish Communist party had been divided for some time into two rival factions, one of which put unquestioning loyalty to Moscow above all other considerations, while the other had the national interest at heart. The former group was headed by Hilary Mine, Minister of Industry, the latter by Vice-Premier Wladyslaw Gomulka, the secretary general of the Workers' (Communist) party.

The struggle between the two factions came to a head in August, after completion of the break between Tito and the Cominform. At a meeting of the Communist party's central committee, in mid-August, a new political program was drawn up which in all respects followed the Cominform line. Among other things, it was decided to organize a new drive against "rich peasants," and to bring all small and medium farmers into cooperatives. On this, as on other points of the program, Gomulka was in frank opposition to the party majority. At first an attempt was made to gloss over the dispute, but when Gomulka refused to recant,

his ouster from party leadership became inevitable.

On September 3, a statement issued by the central committee admitted publicly that there was a "rightist and nationalist deviation" in the party. At the same time it was announced that the committee had called on President Bierut—who hitherto had been ostensibly a non-party man—to "return to active political work" in the party and that the President had agreed. This move foreshadowed the dismissal of Gomulka from his post as Secretary General, which was made public on September 5, when the central committee, after a new denunciation of the dissidents, named Bierut to the key party post.

Gomulka, realizing that he had lost the battle, capitulated. On September 6, he publicly admitted his "errors" and promised to abide by the new party line. Although he had previously opposed his party's denunciation of Tito, he now announced that there was no room in the Polish Workers' party for "Yugoslav-like apostasies." In return, he was allowed to keep his posts as Vice-Premier and Minister for the Western Territories.

The Communist purge, which also involved numerous lesser party officials throughout the country, led to a similar crisis in the Socialist party. Since early in the year, plans had been afoot to merge the two parties—whose differences in viewpoint and policies gradually had become almost imperceptible—in a single United Workers party. Those plans were nearing completion at the time of the Gomulka affair. Now the new Secretary General of the Communist party, President Bierut, demanded that the Socialist partner reform as thoroughly before the fusion project could become effective.

Accordingly, on September 22, the central committee of the Socialist party purged itself and the subordinate National Council of 16 members charged with nationalism, right-wing tendencies, and hampering unity with the Communists. Among those removed from the central committee was former Premier Edward Osobka-Morawski. The victorious left-wing faction was led by the party's secretary general, Premier Cyrankiewicz. Thus toward the end of the year, a virtual one-party rule was established in Poland. —JOACHIM JOESTEN

POLO. The mallet-swinging stars enjoyed one of their biggest years in 1948 when efforts were made to make the sport more popular with the general public. More contests were played indoors and the admission cost to big outdoor games was cut with result that many sports fans saw polo for the first time. One innovation was the introduction of the game to the Orange Bowl in Miami, Fla., where teams using indoor rules played through most of the Winter.

Laddie Sanford's Hurricanes, led by the ten-goal Cecil Smith, captured the big event of the campaign, the national open championship on International Field of the Meadow Brook Club at Westbury, L.I. Riding with Captain Sanford and Smith were Larry Sheerin and Peter Perkins. The same team added to its laurels with a convincing triumph in the Monty Waterbury Cup tourney. Texas came through to the title in the National League's outdoor campaign.

Arlington Farms of Chicago took national open indoor honors, the junior crown falling to the Milwaukee Shamrocks. The University of Miami team of Florida rode off with the national intercollegiate trophy and the Chicago Black Hawks triumphed in the Sherman Memorial tournament.

—THOMAS V. HANEY

POPULATION. The most fundamental statistics of any geographic area are the statistics of its population—the count of the number of persons who live in the area—since it is through these persons that the area acquires importance, either as a market or as a source of production or as a factor in the non-economic affairs of the nations. For some areas the best population statistics available, even now, comprise no more than rough estimates of the number of inhabitants, without classification, while in other areas there have been painstaking counts of the population classified by age, sex, marital status, education, occupation, income, and other characteristics.

World Population. The earliest date for which generally acceptable estimates of the population of the world have been made is around 1650, or about 300 years ago. Even now no more than two-thirds or three-fourths of the world's population is covered by actual censuses; and some of the censuses are far from meeting the highest standards. Estimates for dates from 1650 to 1933 are presented in Table 1. From 545 million in 1650, the world population increased, according to these estimates, to 728 million in 1750—a gain of 33 percent in 100 years; by 1850 the figure had grown to 1,171 million, an increase of 61 percent; and in 1947, at the end of almost another hundred years, the figure was about twice that of 1850. The speeding up in the rate of increase which has thus been noted has resulted in part from improvement in health conditions effected by governmental activities in the field of public health, in part from the greatly increased per capita output attained through the use of modern methods in both agriculture and manufacturing, and in part from the facility with which modern transportation brings food to an otherwise famine-stricken area and carries food products from surplus areas to deficit areas.

TABLE 1—POPULATION OF THE WORLD, BY CONTINENTS: 1650 TO 1933*
(Figures in millions)

	1650	1750	1800	1850	1900	1933
The World...	545	728	906	1,171	1,608	2,057
Europe	100	140	187	266	401	519
Asia	330	470	602	740	937	1,121
Africa	100	95	90	95	120	145
North & South America...	13	12	25	59	144	262
Oceania	2	2	2	2	6	10

* From A. M. Carr-Saunders, *World Population*, London, 1937.

In the more highly industrialized areas, where public health activities long ago brought about significant reductions in the death rate, the birth rate also has gone down significantly in recent decades, so that the excess of births over deaths is no more—perhaps even less—than it was 100 or 150 years ago when both rates were high. In these countries the Malthusian menace of population overtaking food supply is no longer a source of worry. In other countries, however, where the reduction in the death rate through governmental health activities is recent, the birth rate is still maintained at its earlier level; and we have cases where, as in Puerto Rico, a death rate of 13 is accompanied by a birth rate of 43, with a resulting 3 percent annual increase in the population—which, in Puerto Rico, is already twice as large as the land can well support.

The latest available population figures are shown, by continents, in Table 2, with corresponding areas and population densities. In the matter of growth since 1933, there are no outstanding differences among the continents, and the minor

differences in favor of the "newer" continents may reflect nothing more than the relative imperfections in the data.

TABLE 2 POPULATION AND AREA OF THE WORLD, BY CONTINENTS, 1947

	Population ^a (thousands)	Area (sq. mi.)	Population per sq. mi.
The World	2,314,955	57,566,335	402.1
Europe (excl. U.S.S.R.)	386,198	1,907,902	202.4
Asia (excl. U.S.S.R.)	1,230,876	11,056,834	111.3
U.S.S.R. (Europe & Asia)	193,000	8,443,710	228.6
Africa	183,178	11,010,615	157.8
North America	206,246	9,387,343	219.7
South America	103,558	6,855,294	151.1
Oceania (inc. Australia)	11,899	330,056	360.5

^a From Statistical Office of the United Nations.

Even in the matter of population density—the number of persons per square mile of area—the differences are not as spectacular as between one entire continent and another, since every continent contains rather large areas of thinly settled territory and relatively small areas with the extreme densities represented by such areas as the Netherlands (717), Belgium (713), or Puerto Rico (628).

Population of the United States. The population of the United States in 1790, when the first census was taken, was just short of 4 million. Each sub-

TABLE 3 POPULATION OF CONTINENTAL UNITED STATES: 1790 TO 1948

Date	Population	Increase over preceding census Number	Percent	Population per sq. mi.
1790	3,929,214			4.5
1800	5,308,483	1,379,269	35.1	6.1
1810	7,239,881	1,931,398	36.4	4.3
1820	9,638,453	2,398,572	33.1	5.5
1830	12,866,020	3,227,567	33.5	7.3
1840	17,069,453	4,203,433	32.7	9.7
1850	23,191,876	6,122,423	35.9	7.9
1860	31,443,321	8,251,445	35.6	10.6
1870	39,818,449 ^a	8,375,128	26.6	13.4
1880	50,155,783	10,337,334	26.0	16.9
1890	62,947,714	12,791,931	25.5	21.2
1900	75,994,575	13,046,861	20.7	25.6
1910	91,972,260	15,977,684	21.0	30.9
1920	105,710,620	13,738,364	14.9	35.5
1930	122,775,016	17,064,426	16.1	41.2
1940	131,669,276	8,894,229	7.2	44.2
1948	146,571,451 ^b	14,902,176	11.3	49.2

^a Revised figure. ^b Preliminary estimate for July 1.

sequent decennial census up to 1860 showed an increase of about one-third over the preceding census. From that date to 1910 the decennial increase was around 20 or 25 percent, and for the decades ending in 1920 and 1930, respectively, 15 or 16 percent, while between 1930 and 1940 the popula-

TABLE 4 ESTIMATES OF THE POPULATION OF CONTINENTAL UNITED STATES INCLUDING ARMED FORCES OVERSEAS: 1940 TO 1948

Date	Population	Increase over preceding date		Change during preceding period			
		Number	%	Births	Deaths	Excess of births over deaths	Net civilian arrivals from abroad
April 1, 1940 (census)	131,669,276						
July 1, 1940	131,970,000	301,000	0.23	623,000	353,000	270,000	31,000
July 1, 1941	133,203,000	1,233,000	0.93	2,628,000	1,454,000	1,174,000	59,000
July 1, 1942	134,605,000	1,402,000	1.10	2,808,000	1,415,000	1,393,000	69,000
July 1, 1943	136,497,000	1,892,000	1.36	3,209,000	1,487,000	1,722,000	110,000
July 1, 1944	138,083,000	1,586,000	1.16	3,017,000	1,556,000	1,460,000	126,000
July 1, 1945	139,586,000	1,502,000	1.09	2,955,000	1,652,000	1,303,000	199,000
July 1, 1946	141,235,000	1,649,000	1.18	2,897,000	1,440,000	1,457,000	192,000
July 1, 1947	144,034,000	2,799,000	1.98	3,997,000	1,428,000	2,569,000	230,000
July 1, 1948	146,571,000	2,538,000	1.76	3,700,000	1,458,000	2,242,000	296,000

tion increased only 7.2 percent, or less than half the smallest previous decennial increase. The data for the sixteen censuses are given in Table 3, together with the population per square mile on each census date.

Because of frequent additions of thinly settled areas to the territory of the United States between 1790 and 1850, there were no marked increases in the population per square mile. Between 1850 and 1900, however, the population density increased from 7.9 to 25.6, and continued to increase rapidly, amounting to 44.2 in 1940 (and 49.2 in 1948).

Estimates of the population of the United States as a whole have been made month by month since 1940 on the basis of current records of births and deaths (adjusted for under-registration) and net immigration. The estimates for July 1 of each year are presented in Table 4, together with the data on births, deaths, and net immigration on which the estimates are based.

The population of the United States for July 1, 1948, including persons in military service abroad, was thus estimated at 146,571,000, which represents an increase of 2,538,000, or 1.76 percent, over the estimate for July 1, 1947. The increase during the preceding fiscal year (2,799,000), a year in which nearly 4 million births were recorded, was appreciably larger, but the increase for the year ending June 30, 1948, was larger by many hundreds of thousands than the increase in any year prior to 1947.

The estimate for 1948 represents an increase of 14,902,000, or 11.3 percent, over the 1940 census. This 8-year period thus added almost twice as much to the population as the entire decade between 1930 and 1940; and the complete decade from 1940 to 1950 bids fair to record an increase decidedly larger in absolute figures than any earlier decade.

This situation, which represents a reversal of a long-time trend toward slower and slower population increase, is difficult to interpret; and experts in the population field are in disagreement as to whether it is a purely temporary result of war conditions or may foreshadow population increase at a higher level over a long period of time.

The sources of the increase between 1947 and 1948 may be analyzed as follows. There were during the year ending June 30, 1948, 3,700,000 births, from which may be subtracted 1,458,000 deaths, leaving a natural increase of 2,242,000 which represents the major part of the population increase. The remainder was made up of net civilian immigration amounting to 296,000, including about 30,000 persons coming into continental United States from the territories and possessions.

Among these factors, the number of births is the one which has changed materially during the past 30 years, first declining from a maximum of 2,956,000 in 1921 to a minimum of 2,275,000 in

1933, and then increasing, first slowly to 2,558,000 in 1940, and then more rapidly to the figures quoted above. The number of deaths was 1,442,000 in 1920, 1,457,000 in 1930, 1,474,000 in 1940, and 1,460,000 in the calendar year 1948. Immigration

averaged around 300,000 per year between 1920 and 1930, slightly less than zero between 1930 and 1940, and in 1948 was again approaching 300,000 a year.

TABLE 5—POPULATION OF THE UNITED STATES EXCLUDING ARMED FORCES OVERSEAS, BY STATES: 1948 AND 1940

Division and State	July 1, 1948 (provisional estimate)	April 1, 1940 (Census)	Percent of increase ^a
United States	146,114,000	131,669,275	11.0
New England:			
Maine	900,000	847,226	6.2
New Hampshire	548,000	491,524	11.6
Vermont	374,000	359,281	4.1
Massachusetts	4,718,000	4,316,721	9.3
Rhode Island	748,000	713,316	4.8
Connecticut	2,011,000	1,709,242	17.7
Middle Atlantic:			
New York	14,388,000	13,479,142	6.7
New Jersey	4,729,000	4,160,165	13.7
Pennsylvania	10,689,000	9,900,180	8.0
South Atlantic:			
Ohio	7,799,000	6,907,612	12.9
Indiana	3,909,000	3,427,796	14.1
Illinois	8,670,000	7,897,241	9.8
Michigan	6,195,000	5,266,106	17.9
Wisconsin	3,309,000	3,137,587	5.5
West North Central:			
Minnesota	2,940,000	2,792,300	5.3
Iowa	2,625,000	2,538,268	3.4
Missouri	3,947,000	3,784,664	4.3
North Dakota	550,000	641,935	-12.8
South Dakota	823,000	642,961	-3.2
Nebraska	1,301,000	1,315,834	-1.1
Kansas	1,968,000	1,801,028	9.3
South Atlantic:			
New York	297,000	266,505	11.5
Maryland	2,148,000	1,821,244	17.9
Delaware	898,000	663,091	35.5
Virginia	3,029,000	2,677,773	13.1
West Virginia	1,915,000	1,901,074	0.7
North Carolina	3,715,000	3,571,023	4.0
South Carolina	1,991,000	1,899,804	4.8
Georgia	3,128,000	3,123,723	0.1
Florida	2,356,000	1,897,414	24.2
East South Central:			
Kentucky	2,819,000	2,845,627	-0.9
Tennessee	3,149,000	2,915,811	8.0
Alabama	2,848,000	2,832,961	0.5
Mississippi	2,121,000	2,183,796	-2.9
West South Central:			
Arkansas	1,925,000	1,949,387	-1.3
Louisiana	2,576,000	2,363,880	9.0
Oklahoma	2,362,000	2,336,434	1.1
Texas	7,230,000	6,414,824	12.7
Mountain:			
Montana	511,000	559,456	-8.6
Idaho	530,000	524,873	1.0
Wyoming	275,000	250,742	9.6
Colorado	1,165,000	1,123,298	3.7
New Mexico	571,000	531,818	7.4
Arizona	664,000	499,261	32.9
Utah	655,000	550,310	19.0
Nevada	142,000	110,247	28.4
Pacific:			
Washington	2,487,000	1,736,191	43.3
Oregon	1,626,000	1,089,684	49.2
California	10,031,000	6,907,387	45.2

^a A minus sign (—) denotes decrease.

In addition to the estimates of the total population of the United States including members of the armed forces overseas, estimates were made for the civilian population and for the population including military personnel in the continental United States. The estimate of the civilian population for July 1, 1948, was 145,306,000, and the estimate for the population, excluding only those armed forces who were overseas, was 146,114,000. The latter estimate is distributed by States in Table 5, which shows also the percentage of increase over 1940.

The figures in Table 5 indicate that, in general, the population changes resulting from the concentration of war-production effort in certain areas have been maintained up to 1948, that is, most of the States which showed marked increase between 1940 and 1948 were States to which there was a considerable amount of migration for participation

in the war-production effort. Seventeen States and the District of Columbia increased at a higher rate than the country as a whole, while the population of seven States actually decreased. Nearly one-third of the entire numerical increase took place in the three Pacific Coast States, each of which showed a population increase well above 40 percent, while the maximum percentage for any State outside the far west was 24.2 in Florida.

There has been much interest, especially in recent years, in forecasts of the population for future dates, but the unexpectedly large numbers of births which have occurred since 1940, and especially in the fiscal years 1946-47 and 1947-48, have made increasingly difficult the problem of making such forecasts. Revised forecasts of the population of the United States (two alternative series based on different assumptions) were published by the Bureau of the Census early in 1949. The higher of these two series of official estimates gives 149,886,000 for 1950 and 155,745,000 for 1955. Even these estimates seem to be rather conservative, however, in view of the actual increases during 1947 and 1948, and the situation in January, 1949, seemed to justify somewhat larger estimates, perhaps as high as 151 million for 1950, and 159 million for 1955.

Urban and Rural Areas. The urban population of the United States comprises in general all persons living in incorporated places (cities, towns, villages, or boroughs) having a population of 2,500 or more, while the remainder of the population is classified as rural. One of the most significant of the changes in the characteristics of the population of the United States has been the rapid urbanization of the population. In 1790, 94.9 percent of the population was rural and only 5.1 percent urban. By 1850 the percentage urban had increased to 15.3; in 1900 it was 39.7; in 1920, 51.2; in 1940, 56.5; and in 1947, 59.0. There has been consistent and rapid increase in this figure from one census to another since 1830, except that during the depression decade between 1930 and 1940 the urban population increased only a little faster than the rural. The conditions prevailing during this period discouraged the usual movement of the population from rural to urban areas and also reduced somewhat the rate of natural increase so that the urban areas gained far less than in previous decades from the inflow of rural migrants, and somewhat less from the excess of births over deaths. The decennial figures on urban and rural population are summarized for the entire period from 1790 to 1940 in Table 6, together with estimates based on a sample survey of the civilian population made in 1947, which indicate a resumption of the tendency toward urban residence.

Sex and Color. Since 1910, at which time there was an excess of 2,692,288 males in the population of the United States (partly resulting from heavy immigration during the years just preceding), there has been a fairly rapid decline in the sex ratio, that is, the number of males per 100 females. This figure, which stood at 106.0 in 1910, had been reduced to 100.7 in 1940, and further reduced in 1948 to 99.1. Between 1940 and 1948, an excess of 453,909 of males in the population had disappeared and been replaced by an excess of 642,421 females. This situation represents more nearly what might be termed a normal relationship between the numbers of the two sexes, since under present conditions women live somewhat longer, on the average, than men. It is expected that this excess of females will increase somewhat as the years go by, but that it will never reach alarming propor-

TABLE 6- URBAN AND RURAL POPULATION OF THE UNITED STATES: 1790 TO 1947

Year	Total	Population		Percent in-crease over preceding census		Percent of total population	
		Urban	Rural	Urban	Rural	Urban	Rural
1790.....	3,929,214	201,055	3,727,559	..	..	5.1	94.9
1800.....	5,308,483	322,371	4,986,112	59.9	33.8	6.1	93.9
1810.....	7,339,881	525,159	6,714,722	63.0	34.7	7.3	92.7
1820.....	9,658,453	693,255	8,965,198	31.0	33.2	7.2	92.8
1830.....	12,866,020	1,127,247	11,738,773	62.0	31.2	8.8	91.2
1840.....	17,069,453	1,815,055	15,224,398	63.7	29.7	10.8	89.2
1850.....	23,191,876	3,543,716	19,648,160	92.1	29.1	15.3	84.7
1860.....	31,113,321	6,216,518	25,226,803	75.4	28.4	19.8	80.2
1870.....	38,558,371	9,902,361	28,656,010	59.3	13.6	25.7	74.3
1880.....	50,155,783	14,129,735	36,026,048	42.7	25.7	28.2	71.8
1890.....	62,917,714	22,106,265	40,811,449	56.5	13.4	35.1	64.9
1900.....	75,994,575	30,169,921	45,824,654	36.4	12.2	39.7	60.3
1910.....	91,972,266	41,998,932	49,973,334	39.3	9.0	45.7	54.3
1920.....	105,710,620	54,167,973	51,552,647	29.0	3.2	51.2	48.8
1930.....	122,775,046	68,954,823	53,820,223	27.3	4.4	56.2	43.8
1940.....	131,609,275	74,423,702	57,245,573	7.9	6.4	56.5	43.5
1947 ^a	142,061,000	83,860,000	58,201,000	12.7	1.7	59.0	41.0

^a Estimate for April 1; civilian population only.

tions nor even approach a figure equal to the excess of males which obtained in 1910. The data for population classified by sex from 1850 to 1948 are presented in Table 7.

TABLE 7- POPULATION OF THE UNITED STATES, BY SEX: 1850 TO 1948

Year	Male	Female	Males per 100 females	Excess of males
1850.....	11,837,660	11,351,216	104.3	486,444
1860.....	15,518,820	14,636,967	106.1	881,857
1910.....	17,332,777	14,639,989	106.0	2,692,788
1930.....	22,137,080	19,637,960	102.5	2,499,114
1940.....	26,061,592	23,607,683	100.7	2,453,909
1948 ^a	27,261,515	23,606,936	99.1	3,654,579

^a Estimate for July 1. ^b Excess of females.

The percentage of nonwhite persons in the population of the United States has changed very little in recent times. The census figures show a slight decrease from 12.1 percent in 1900 to 10.2 percent in 1930 and again in 1940, at which time the total nonwhite population amounted to 13,454,405. Since 1940, however, the nonwhite population has increased somewhat faster than the white, amounting in 1947, according to a sample survey of the civilian population, to 15,017,000, or 10.6 percent of the total. During this same period there was a very considerable increase of nonwhite persons from the rural south to urban centers in the north and west. Thus while the nonwhite population of the country as a whole increased 11.6 percent, the nonwhite population actually decreased 4.8 percent in the south, and increased by more than 50 percent in the rest of the country. These figures are summarized, by regions, in Table 8.

TABLE 8- POPULATION OF THE UNITED STATES, BY COLOR, BY REGIONS: 1940 AND 1947

Area and classification	1947, civilian population ^a	1940, total population	Percent increase ^b
Total.....	142,061,000	131,609,275	7.9
The Northeastern States.....	39,315,000	35,076,777	9.3
The North Central States.....	42,665,000	40,143,332	6.3
The South.....	42,773,000	41,005,001	2.7
The West.....	17,310,000	13,883,265	24.7
White.....	127,044,000	118,214,870	7.5
The Northeastern States.....	36,973,000	34,566,768	7.0
The North Central States.....	40,410,000	38,039,970	4.6
The South.....	33,243,000	31,658,678	5.0
The West.....	16,418,000	13,349,554	23.0
Nonwhite.....	15,017,000	13,454,405	11.6
The Northeastern States.....	2,342,000	1,410,000	66.1
The North Central States.....	2,253,000	1,503,362	49.9
The South.....	9,530,000	10,007,323	-4.8
The West.....	892,000	533,711	67.1

^a Estimates based on a small sample. ^b A minus sign (-) denotes decrease.

Age Distribution. The population of the United States, like that of most industrialized countries,

has been rather rapidly growing older for a long time, partly because the declining birth rate has resulted in the addition of relatively smaller numbers of children in successive generations, and partly because improvements in health conditions have increased the span of life. The median age of the population in 1820 was 16.7; in 1870, 20.2; in 1910, 24.1; and in 1940, 29.0. The same tendency is indicated by the increase in the percentage of the population 65 years old and over, which increased from 3.4 in 1880 to 7.5 in 1948.

While the increase in the percentage of the population in the older age groups has continued since 1940, the large numbers of births, already referred to above, have changed the pattern of the age distribution with respect to the younger age groups. These changes are clearly shown by the figures in Table 9, which gives the age data for 1940 and 1948.

TABLE 9- POPULATION, INCLUDING MILITARY OVERSEAS, BY AGE: 1948 AND 1940

Age (years)	Population July 1, 1948		Population April 1, 1940	
	Number	Percent	Number	Percent
All ages.....	146,571,451	100.0	131,609,275	100.0
Under 5.....	15,106,426	10.3	10,541,524	8.0
5 to 9.....	12,892,849	8.8	10,684,622	8.1
10 to 14.....	10,879,788	7.4	11,745,935	8.9
15 to 19.....	10,981,908	7.5	12,333,523	9.4
20 to 24.....	12,013,111	8.2	11,587,835	8.8
25 to 29.....	11,999,596	8.2	11,096,038	8.4
30 to 34.....	11,239,717	7.7	10,242,388	7.8
35 to 39.....	10,665,095	7.3	9,545,377	7.2
40 to 44.....	9,765,025	6.7	8,787,843	6.7
45 to 49.....	8,934,173	6.1	8,255,225	6.3
50 to 54.....	8,072,218	5.5	7,250,840	5.5
55 to 59.....	7,231,142	4.9	5,843,865	4.4
60 to 64.....	5,850,220	4.0	4,728,340	3.6
65 to 69.....	4,347,308	3.0	3,806,057	2.9
70 to 74.....	3,145,936	2.1	2,569,532	2.0
75 and over.....	3,456,339	2.4	2,643,125	2.0
Median age.....	29.8	..	29.0	..

The population under 5 years of age, which decreased sharply between 1930 and 1940 and was actually smaller in 1940 than in 1910, increased far more rapidly between 1940 and 1948 than any other age group, gaining 43.3 percent as compared with a gain of only 11.3 percent in the population as a whole, and representing 10.3 percent of the total population in 1948, as compared with 8.0 percent in 1940. The population 5 to 9 years old likewise increased its proportion of the total from 8.1 percent to 8.8 percent. On the other hand, the number of persons from 10 to 19 years of age, comprising mainly persons born during the low-birth-rate years of the 1930's, was smaller by more than 2 million in 1948 than in 1940. The population at the upper end of the age scale continued to increase, however, at a rate materially above that

TABLE 10—POPULATION BY EMPLOYMENT STATUS, DECEMBER, 1940 TO 1948
(Institutional population excluded. Employment figures are based on a small sample. Numbers in thousands)

Employment status	Dec., 1948	Dec., 1947	Dec., 1946	Dec., 1944	Dec., 1943	Dec., 1940
Total population 14 years old and over.....	109,036	107,918	106,940	104,900	103,010	100,780
Total labor force including armed forces.....	62,828	60,870	60,320	65,030	61,970	55,150
Armed forces.....	1,453	1,280	1,890	11,820	6,290	600
Civilian population.....	107,583	106,638	105,050	93,080	96,720	100,000
Civilian labor force.....	61,375	59,590	58,430	53,210	55,680	54,460
Unemployed.....	59,434	57,947	56,310	52,710	54,160	47,550
Employed.....	1,941	1,643	2,120	500	1,520	6,910
Persons not in labor force.....	46,208	47,047	46,020	39,870	41,040	45,630
Employed persons by sex:						
Male.....	42,162	41,653	40,300	34,180	37,500	35,880
Female.....	17,272	16,204	16,010	18,530	18,660	11,670

of the total population. Persons 55 to 64 years of age formed 8.9 percent of the total in 1948, as compared with 8.0 percent in 1940, and the percentage of the population 65 years old and over increased from 6.9 in 1940 to 7.5 in 1948.

Very significant increases in the numbers of children of school age can be definitely forecast on the basis of current data on children of pre-school age—or of the numbers of births which have occurred in specific recent years. The 6-year-olds entering school in the fall of 1948, for example, were mainly the survivors of the 2,808,000 births of the fiscal year 1941-42. Those who will enter school in 1953 will be mainly the survivors of the 3,997,000 births of 1946-47 and may safely be counted on to represent a similar increase (42.3 percent) over the new enrollment of 1948, which, in turn, was 20 percent larger than that of years around 1939 or 1940.

Employment Status. Data on the employment status of the population of the United States have been published each month since 1940 on the basis of a monthly survey of a widely distributed sample of about 25,000 households. Data representing the number of persons in the labor force, the number of employed and the number of unemployed are summarized for various dates from 1940 to 1948 in Table 10.

The decline in the civilian population 14 years old and over from 100,090,000 in December, 1940, to 93,080,000 in December, 1944, reflects the mobilization of the armed forces for World War II, while the rapid increase in the civilian population to 105,050,000 in 1946 reflects the approximate completion of demobilization. The recruitment of additional workers for war production is indicated by the fact that while the civilian population declined by 7 million between 1940 and 1944, the civilian labor force declined by only a little more than 1 million.

The maximum wartime employment (56,290,000 in July, 1943) was equalled in December, 1946, and exceeded by 3 million in December, 1948. Unemployment, which dropped to a very low figure during the war (from nearly 7 million in 1940) was maintained at a level between 1,500,000 and 2,500,000 for most of the postwar period. These figures represent little more than what is sometimes termed "frictional unemployment," that is, the number of persons who will at any one time be in process of transfer from one job to another. The estimate of unemployment for January, 1949, indicated a considerable increase over December, 1948, though still within the range indicated above.

—LEON E. TRUESDELL

PORTS AND HARBORS. The year 1948 has seen some expansion and improvement of ports and harbors, but the principal work has been in rehabilitation due to war damage and neglect. Increased labor and operating costs have dictated the speedier

turn-around of shipping in port and the increased over-all dimensions of ships has necessitated extensive modification of existing facilities.

In the Far East, with the exception of Hong Kong and some of the Japanese ports now used by the American forces, little has been done since the war and conditions generally are unsatisfactory. The Philippine Government has just let a contract to clear Manila harbor of wreckage.

In Europe, Africa, and the Near East the reconstruction of war damage is well under way. Rotterdam, Leningrad, and the Latvian ports of Riga and Liban all report reconstruction virtually complete and an increase of cargo handling equipment. Poland is spending \$22 million on ports. Gdynia is functioning satisfactorily and Szczecin (Stettin) is being made into the principal bulk-cargo port. Small fishing ports will also be equipped to handle coal.

In France temporary equipment erected for the Allied armies is proving satisfactory and will last for several more years. Therefore reconstruction is of a permanent nature, often along prewar expansion programs, as at Marseilles. Cherbourg is concentrating on passenger facilities now, but hopes to maintain much of her wartime importance as a freight port.

Reconstruction in England is slower, due partly to its extent and partly to strict government control of all construction. However, the larger British ports are operating at about 70 percent of prewar capacity. Many enclosed ports must enlarge their locks to accommodate the larger postwar vessels. New handling equipment is being provided and transit sheds are being built. The Manchester Canal Company plans a large oil dock to be erected outside the city.

The ERP has provisionally agreed to construct an oil harbor and refinery at Antwerp with a capacity of a million tons a year. The contract has been let for a pier and causeway to extend seven miles into the Persian Gulf and carry pipelines and standard gauge railroad track for the Arabian American Oil Co.

In the United States, the chief handicap is in labor-management relations and the high cost of pier construction. Substructure costs have doubled and superstructure costs have increased two and a half times in nine years. Considerable work has been done in deepening channels, and more is under way. The main channel in New York from Ambrose Light to 59th Street is now 45 ft. At Philadelphia and Norfolk the channel has been increased to 40 ft. as far as the Navy Yards, and at Baltimore to 39 ft. An improvement in suction dredging permits pumping at practically bottom consistency, speeding work.

In June San Francisco joined New York and New Orleans as a free port with a foreign trade zone where goods may be stored, sorted, processed, and trans-shipped without payment of duty. In No-

vember New Orleans opened its International Trade Mart, "a global showcase for bringing together buyers and sellers from all parts of the world."

Port Newark was transferred to the Port of New York Authority, March 31. Basin dredging is complete, piling is in order, and fenders and trackage are being improved. Five millions will be spent there during 1949 in a 7-year expansion program. Three plans were submitted for the modernization of the Port of New York, but no agreement has been reached.

The Hoosic Terminal under construction in Boston is now 40 percent completed. The B&M Railroad and the city have agreed on Mystic Pier No. 1, but work will not start until the completion of the Hoosic Terminal. The C&O Railroad's new coal-handling pier under construction at Norfolk will increase their capacity by a third. It will be able to handle 6,000 tons an hour by means of conveyor belts and four movable towers making ship movement unnecessary during loading. At Toledo the New York Central and B&O Railroads' rail and water terminal, put into service in 1948, can load a lake vessel holding 16,000 tons of coal in six hours. This terminal, built at a cost of \$18.5 million has three movable ore unloaders and three coal dumpers.

Canada plans to spend \$5,966,000 to expand her harbor facilities in addition to \$2,307,000 earmarked for maintenance in 1949. Work is well along on two large 35-ft draft wharves and fire-proof transit sheds, one at Halifax, and the other at St. John, N.B.

The year's most interesting development in harbor control is the search radar installation at Liverpool, England which lies 14 miles up the Mersey River. Movement is virtually impossible during the frequent fogs. This equipment enables port authorities to observe shipping and obstructions constantly and inform individual pilots of conditions in their areas.

The 15-ft. scanner, built to revolve at 12 r.p.m. in a 100 m.p.h. gale, is installed on a 60-ft. tower with an unobstructed view of the estuary. The new type precision viewers are installed in six units, replaceable for maintenance. The first gives the entire 13-mile range, one mile to the inch and adjustable to a 20-mile range. The center four give larger sectional views and the sixth gives any area within a 20 mile radius. —J. W. HAZEN

PORTUGAL. A republic of southwestern Europe, occupying the western part of the Iberian Peninsula. The climate is temperate.

Area and Population. The area of continental Portugal is 34,254 square miles, and that of the Azores and Madeira Islands 1,236, a total of 35,490. Population: 8,402,000 (1948 est.). Principal cities: Lisbon (capital), Oporto, Funchal, Setúbal, Braga, Evora, Ponta Delgada, Faro, and Coimbra.

Education and Religion. Freedom of worship exists, but the Roman Catholic faith prevails and plays an important part in the life of the nation. The country has a Concordat and a Missionary Agreement with the Vatican. Unofficial estimates show that about half of the population over seven years of age is literate, and that 10,100 primary schools with over half a million pupils function in the country. In 1945, there were 43 secondary schools with 17,281 pupils; 65 technical schools with 41,343 students, and other professional and technical institutions for secondary education. For higher education, there are four universities (Coimbra, two at Lisbon, and Oporto).

Production. Agriculture is the leading occupation, followed by mining, fishing, and manufacturing. Principal agricultural crops are wheat, maize, rye, potatoes, and oats. Other important products are wine, olive oil, and wool. Cork is exported in considerable amounts. Portugal has valuable mineral deposits, but for lack of power, many mines remain unexploited. Production of coal in 1947 was 37,000 metric tons and that of lignite 1,408,000 metric tons. Other products of that year (in metric tons) included cotton fabrics, 1,880; cotton yarn, 4,920; and meat, 4,100.

Foreign Trade. Total exports in 1948 (8 months actual, 4 months estimated) were valued at 4,185 million escudos; imports at 9,504 million escudos. For 1947: exports, 4,243 million escudos; imports, 9,462 million escudos. The bulk of Portugal's exports go to Great Britain, the United States, Mozambique, Angola, and France; imports come mainly from the United States, Great Britain, Angola, Mozambique, and Spain.

Transportation. Portugal has 824 miles of national railways and 1,177 miles of privately owned lines. There are 16,015 miles of roads of all kinds. The merchant marine in 1943 had 315,534 tons registered. Lisbon is one of the most important air centers of Europe, and is well served by the international airlines.

Finance. In the budget for 1948, revenue was estimated at 5,550,600,000 escudos; expenditure at 5,549,500,000 escudos (\$U.S. = 25.06 escudos). Currency in circulation in October, 1948, was 8,150 million escudos; bank deposits 17,930 million escudos.

Government. Portugal is a corporative state under a constitution adopted in 1933, which provides for a President elected for a 7-year term, a Premier, a Corporative Chamber, and a National Assembly. The President appoints the Premier, who in turn elects the Cabinet. The only legal party is the *União Nacional* (Party of the National Union). In the elections of 1942, the only candidate was Gen. Antonio Oscar Fragozo de Carmona, who has held office since 1928, and he was reelected for seven years more. The Government is a dictatorship. The President is a figurehead, political power being in the hands of Premier Antonio de Oliveira Salazar.

Events, 1948. On the domestic front, Portugal had another year under Dr. Oliveira Salazar, with no important political changes.

Anniversary of the "Revolution." The 20th anniversary of the Fragozo-Salazar regime was commemorated with nearly as much pomp as last year's celebration of the 80th anniversary of Lisbon's liberation from the Moors (see YEAR BOOK, *Events of 1947*). Numerous official speeches lauded the achievements of the "Revolution," and the occasion was used to announce a two-year plan for public works. The plan, which provides for 3,872 projects in different parts of the country, was given extraordinary publicity in the press.

In June, an American naval squadron visited the Tagus River. The officers were lavishly entertained by government officials, indicating the interest of the administration in currying favor with the United States.

End of War Boom. The end of Portugal's bonanza was seen early in September, when other European countries appeared to be on their way to economic recovery. During the war, Portugal benefited greatly from exports of important raw materials. A peasant, digging a few pounds of wolfram soil, could collect as much in one day as he could earn in two years' normal work, and the country thus accumulated unprecedented gold reserves and large cred-

its against the United Kingdom. However, they then engaged in large-scale buying of luxuries and necessities, and the effects of a depression soon made themselves felt. Portugal was then faced with serious problems, such as a shortage of foreign exchange, diminishing exports, and dependence upon heavy imports of basic consumer goods. In addition, local industries, artificially developed during the war to meet domestic and even foreign demands, found they could no longer compete with foreign suppliers.

International Front. Portugal's policy during the year consisted, as in 1947, mainly in efforts to gain admission to the United Nations, and especially to draw grants from the Marshall Plan and participate in the distribution of ECA supplies. Her fate in this respect was similar to that of Spain. See SPAIN.
—MIGUEL JORRÍN

PORTUGUESE GUINEA. A Portuguese colony in West Africa. Area: 13,948 square miles. Population (1940): 351,089, of whom 347,547 are Negroes. Agricultural products include palm oil and kernels, rice, and groundnuts. Other products are timber, wax and hides. Foreign trade (1946): imports 95,632,000 escudos; exports 93,065,000 escudos. Budget estimate (1946): revenue 40,629,000 escudos; expenditure 37,956,000 escudos. The seat of government is at Bissau, the chief port. Governor of the colony: Commander Rodrigues Sarmento.

PORTUGUESE INDIA. A Portuguese colony in India, comprising Goa (containing the capital Nova Goa, or Pangim), Daman, and Diu. Total area: 1,537 square miles. Population (1940): 624,177. The main crops are coconuts, cashew nuts, salt, and spices. Foreign trade (1945): imports 224,052,000 escudos; exports 67,874,000 escudos. Budget estimates (1946) were balanced at 48,005,000 escudos. A governor general heads the administration.

POST OFFICE, U.S. The United States Post Office Department is the world's largest business operation, public or private. With nearly 42,000 post offices in every community in the nation, it numbers on its rolls some 475,000 employees, making it the largest peacetime agency of the Federal government. The United States Postal Service, the major communication instrumentality of the nation, provides a common bond among the more than 140 million Americans in the cities and villages, on the farm and in the rural areas.

During the fiscal year 1948, the Post Office Department handled the largest volume of mail and special transactions in its history. This was accomplished despite difficult postwar problems, including inadequate motor-vehicle equipment, lack of space and delay in obtaining essential items of supply and equipment.

The Postal revenues for the year reached an all-time high as did the expenditures. The cost of transporting the mails, costs of supplies and equipment and contractual service have greatly increased since the end of the war. These added costs increased the expenses of the Postal Service during the year to \$1,719,943,288, resulting in a gross operating deficit of \$308,972,005. The revenues amounted to \$1,410,971,284.

Over 40,280 million pieces of mail were handled, including 21,948 million letters and cards containing business and social correspondence; over 6,344 million newspapers and magazines; more than 8,188 million circulars and advertising pieces; over 1,142 million parcels including those containing books and catalogs, and 1,419 million pieces

of mail on the business of the government for which no postage was charged. During the fiscal year 1948 there were nearly 184 million pieces of mail insured, and approximately 70 million pieces on which collect on delivery charges were made, as well as some 91,266,000 registered pieces of mail. There were approximately 117 million pieces of special delivery and special handling mail.

The Post Office Department also serves in a banking and insurance capacity. The United States Postal Note, established in 1945, continued to prove popular with the mailing public, and during the year 73,049,000 postal notes were issued. Over 291 million money orders were issued during the year. The Postal Savings System issued 16,630,521 certificates and paid 18,787,757. Great advances were made in the use of Air Mail. On Mar. 15, 1948, the Post Office Department inaugurated foreign air parcel post service, and on September 1 of the same year domestic air parcel post service was instituted.

At the end of the fiscal year 1948 there were 130,093 miles of domestic air mail routes, an increase of 27,637 over June 30, 1947. During the year the domestic air mail service performed a total of 68,000 million lb. miles of service. The rural delivery routes in operation at the end of the 1948 fiscal year required a daily travel of 1,465,198 miles by rural carriers in providing service to over 30 million patrons. During the fiscal year 1948 it was impossible to deliver 100,457 letters, a decrease of 0.46 percent from the previous year. A total of 4,466,166 letters were returned to the senders from the Dead Letter Offices. Some 736,158 unclaimed parcels were found in the mails, and the sale of these parcels at public auctions realized \$174,335.

Several new highway post office routes were put into operation, bringing the total of such routes now in operation to 20. During the year the Department began the installation in post offices throughout the country of stamp vending machines. These machines vend five one-cent stamps for a nickel; five three-cent stamps for a dime and a nickel, and two five-cent air mail stamps for a dime.

POTATOES. The 1948 production of potatoes in the United States, according to the December, 1948, report of the U.S. Dept. of Agriculture, was estimated at 445,850,000 bushels, compared with the 1947 production of 389,048,000 bu. harvested in 1947 and the 10-year average (1937-46) of 392,143,000 bu.

In 1948 the yields of the chief producing States (in bushels) were: Maine 73,340,000, California 46,800,000, Idaho 42,630,000, New York 38,005,000, Colorado 20,670,000, North Dakota 20,295,000, Pennsylvania 19,425,000, Minnesota 16,740,000, Michigan 16,350,000, New Jersey 13,629,000, Washington 11,600,000, Virginia 11,529,000, Oregon 11,480,000, Nebraska 11,395,000, Wisconsin 10,875,000, North Carolina 10,508,000, Ohio 6,765,000, Texas 4,856,000, Indiana 4,140,000.

World Production. In 1948 for the first time since the war, world potato production was estimated to exceed prewar levels. In the 80 countries for which potato data are available the 1948-49 crop was expected to aggregate about 8,900 million bushels. This compares with 7,500 million bushels in 1947 and the 8,400 million bushel average in the prewar years (1935-39). Estimated production in the Northern Hemisphere, 8,700 million bushels; Southern Hemisphere, 188 million bushels.

Sweetpotatoes. United States production of sweetpotatoes in 1948 totaled 49,806,000 bu. (harvested

from 513,800 acres), compared with 55,746,000 bu. in 1947 and the 10-year average (1937-46) of 64,866,000 bu. Yields of the chief producing States in 1948 (in bushels) were: Louisiana 7,315,000, North Carolina 5,635,000, Georgia 4,930,000, Alabama 4,505,000, Mississippi 4,300,000, Virginia 3,510,000, Texas 3,250,000, New Jersey 2,550,000, Tennessee 2,000,000.

POWER, Division of. A division in the office of the Secretary of the U.S. Department of the Interior which coordinates the power activities of the various agencies of the Department of the Interior. Director: Walton Seymour.

PRESBYTERIAN CHURCH, The. A religious system occupying an intermediate position between Congregationalism and Episcopacy, and adhering to a system of church government by presbyters, or elders. The earliest Presbyterian immigration to the U.S. was that of French Huguenots in South Carolina and Florida, between 1562-64. Francis Makemie, an Irish Presbyterian, is considered the father of American Presbyterianism, having organized several churches in Maryland as early as 1683.

Cumberland Presbyterian Church. One of the Presbyterian bodies whose chief strength is in 16 southern States. The denomination was organized in 1810 because of its attitude towards revivalism. In 1906 the major part of the denomination merged with the Presbyterian Church, U.S.A., the minority of the denomination retaining its identity. The total membership of 78,009 is served by 761 ministers, and 1,031 churches. Church buildings and manses are valued at \$5,996,615. Moderator, Rev. Paul F. Brown, 104 East Grand Ave., Marshall, Tex. Stated Clerk, Rev. Wayne Wiman, 117 Eighth Ave., South, Nashville, Tenn.

Presbyterian Church in the United States. The division of the Presbyterian denomination which covers the territory commonly known as the Southern States. It was composed in 1948 of 17 synods and 87 presbyteries with 3,560 organized churches, 2,663 ministers, and 638,652 members, exclusive of ministers. During the year 26,140 members were received on profession of faith, and 43,597 on certificate. There were 31,151 infant and adult baptisms. Total contributions during 1948 amounted to \$30,489,730. Value of church property: approximately \$100 million.

At the 88th General Assembly in May, 1948, plans for a reunion with the Presbyterian Church in the United States of America was directed to be held in abeyance for a period of 5 years. During this time steps looking toward eventual reunion should be confined to exploring avenues of acquaintance and cooperation only, except that the plan should be completed by Mar. 1, 1949. The General Assembly reendorsed its own Program of Progress: a 5-year program of evangelism, church building, and development at home and abroad.

A total of 12,483 students were enrolled in 87 educational institutions; 1,712 children were cared for in homes. Moderator: Rev. C. Derby Fulton, Nashville, Tenn. Stated Clerk, Rev. E. C. Scott. Office of the General Assembly: 1120 Liberty Bank Building, Dallas 1, Tex.

Presbyterian Church in the United States of America. This body, distinguished by its representative form of government and its Calvinistic theology, was established about 1640. It has in the United States 8,500 churches, 9,500 ministers, and a total membership of 2,300,000. Membership in Sunday Church schools totals 1,325,000. The Church property had an estimated value of \$500 million in

1948. Contributions totaled \$64,972,639. Moderator, Rev. Jesse H. Baird, San Anselmo, Calif. Office of the General Assembly: 514 Witherspoon Building, Philadelphia 7, Pa.

United Presbyterian Church of North America. A union of the Associate Presbyterian Church and the Associate Reformed Presbyterian Church in 1858. Membership in the United States: 205,677. Moderator, Rev. A. H. Baldinger, D.D., Pittsburgh, Pa. Principal Clerk, Rev. O. H. Milligan, D.D., Aliquippa, Pa.

PRICES AND LIVING COSTS. Purchasing power derived from very high levels of incomes and investment generated heavy demands for goods and services of almost all kinds during 1948. The downward trend in the prices of agricultural and many non-durable commodities, which appeared in 1948, particularly in the second half of the year, reflected not so much diminished demand as greatly increased supplies, with some consumer resistance to high prices for individual commodities. The demand for durable goods, particularly metals and metal products, was kept high by heavy commitments for new industrial plant and equipment, record-breaking construction activity and government requirements for defense and foreign aid. Since the supply of these types of commodities can not be rapidly expanded, the pressure of demand pushed prices steadily upward.

Among the more important developments of far-reaching effects were:

- a) In April, the Supreme Court upheld the Federal Trade Commission complaint against basing-point price practices of the Cement Institute. This was widely interpreted to mean that an industry-wide basing-point system of prices was in restraint of trade and, therefore, illegal. As a result of the decision, the cement industry shifted to f.o.b. mill pricing, followed by many other industries, notably steel, various food processors, and some textile manufacturers. The immediate effect of this shift on prices was not clear, although the costs of some industrial consumers were raised; but the long run effect had many implications with respect to the price structure of various industries and products, and with respect to plant and industry locations as well.
- b) The inauguration of the European Recovery Program and the step-up of military purchases also had profound effects on certain markets. The ERP immediately bolstered a declining export market for some agricultural and textile products, but its main effect was to add another element to an excessive demand for machinery, metal products, and capital equipment. In conjunction with the military program (including stockpiling), the demand for metals, both steel and nonferrous, resulted in steadily rising prices and some stimulus to mining lower-grade marginal resources.
- c) A declining trend in agricultural prices was touched off in the first week in February by a sharp collapse of prices quoted on commodity exchanges. The immediate impetus to this decline was a more realistic appraisal of improved crop prospects here and abroad, particularly in comparison to the relatively poor crops of 1947. Although the break itself did not last long, extremely large domestic crops of most agricultural commodities, particularly cotton, corn, and wheat, acted as depressing factors on farm prices all year. This general trend was obscured during the first half-year by rising livestock prices, but from summer on the decline was very

clear. Abundant crops, both actual and prospective, had an immediate effect on prices, and motivated the extension by the Congress of the agricultural price-support program. The new price-support program is designed to insure maintenance of the purchasing power of the farmer relative to other consumers, and will prevent a collapse of farm prices comparable to the debacle of 1920-1921 and the agricultural depression which followed. The change in 1950 from the 90-percent-of-parity formula characteristic of the 1948 and earlier programs to a modified parity formula would permit some further decrease in farm prices, but these decreases would still be limited by the floor of price supports.

- d) Higher costs were built into the price structure for manufactured goods in several ways during the year. The so-called "third round" of postwar wage increases became comparatively universal; there were several important increases in general freight rates; and the cost of raw materials, primarily metals and fuels, advanced considerably. In most cases these increased costs were immediately passed on in the form of higher prices, and have become fairly well solidified in the cost structure of many industries. Their effects, therefore, are not only immediate, but, potentially also of a long-range nature.

The effects of these individual developments and the divergent price trends discussed above can be seen in the differences in the movement of the three official price indexes maintained by the Bureau of Labor Statistics of the U.S. Department of Labor.

- (1) The sensitive daily index of spot prices on organized exchanges and commodity markets started the year very close to its peak and then declined approximately 12 percent as large decreases in agricultural prices offset increases in nonferrous metals.
- (2) The comprehensive wholesale price index includes a large proportion of fabricated commodities and, therefore, reflects to a greater extent continuing increases in labor and distribution costs. This index reached an all-time peak in August, but at the end of the year it had dropped to about where it was at the beginning. A decline in farm prices was offset by the sizable advances for metals, fuels, and building materials.
- (3) The consumers' price index of the Bureau of Labor Statistics advanced to an all-time peak in August and September, 1948, and then turned lower, in line with sharp reductions in retail food prices; the end-of-the-year decline, however, was not large enough to offset the earlier long advance, and the index ended about 2 percent higher than it had been in December 1947. Retail food prices fluctuated comparatively violently as they dipped sharply in February and March in sympathy with the break in the commodity markets, recovered to reach a record high in July, and then declined more than 5 percent by the year end. By December average retail food prices were slightly below the level of the end of 1947. Rents, under control, advanced slowly all year; fuel and miscellaneous goods and services also moved steadily higher. Both retail apparel prices and housefurnishings halted their advance in November and December with very small declines; however, late December, 1948, saw the start of price reductions in apparel and housefurnishings (principally textiles) on a nationwide scale and the possibility of appreciable declines in these groups in early 1949 became more of a reality.

During the second half of 1948 employment consistently ran above 60 million people and, except for temporary dislocations among individual plants and areas, just about everyone who wanted to work, and possessed any degree of skill, could obtain a satisfactory job. Average weekly earnings of factory workers rose to \$54.18 a week in September, an increase of 7.3 percent over the same period in 1947. During this same 12 month period, consumers prices advanced 6.5 percent, so that "real" earnings advanced only fractionally. Since V-J day, weekly earnings have risen 30 percent, but "real" earnings have decreased about 5 percent as prices rose 35 percent.

National income (which measures earnings accruing to the residents of the nation from current production) rose to a record annual rate of \$227,000 million in the third quarter of 1948, an increase of \$5,600 million above the second quarter; the estimate for the full year is \$224,000 million. Gross national product, the market value of the country's goods and services, is about \$253,000 million. A large portion of this record, however, is due to the increase in prices.

Full employment, high wages, a reduction in taxes, and booming business added up to an all-time record of dollar spending by American consumers. Disposable personal income—income of all kinds after taxes—is estimated by the U.S. Department of Commerce at an annual rate of \$194,000 million in the third quarter of 1948 compared with \$174,000 million in 1947 and \$70,000 million in 1939. The 1948 Survey of Consumer Finances by the Federal Reserve Board showed that consumers have added to their stock of liquid assets, although at a slower rate than in previous postwar years. Relatively, liquid assets in the hands of wage-earners were down while those held by persons in business and other self-employed groups were higher.

One of the major steps ever taken in establishing and measuring "American living standards" was the work of the Bureau of Labor Statistics (B.L.S.) in its study of the City Workers' Family Budget. In the spring of 1945 the Labor and Federal Security Subcommittee of the Committee on Appropriations of the House of Representatives directed the Bureau "to find out what it costs a workers' family to live in the large cities of the United States." The subcommittee indicated that it wanted to know the relative differences in living costs between cities and, in addition, the total number of "dollars required for the average worker in overalls to live in these cities."

To carry out this request most effectively, the B.L.S., with the approval of the subcommittee, appointed a Technical Advisory Committee to assist in developing basic standards and methods to be used in the project. The technical committee consisted of specialists and technicians who because of their training and experience are considered responsible authorities in studies of living costs. Guided by the standards established by the Technical Advisory Committee and following the methods which it outlined, the B.L.S. first developed the list of items and quantities making up a budget for a city worker's family, and then obtained prices for this list of goods and services and worked out dollar totals for 34 large cities in the United States.

In determining this budget, a family of four was used as the basis for the calculation. The family of four includes an employed father, a housewife not gainfully employed, and two children under 15. The budget was designed to represent the estimated dollar cost required to maintain this fam-

ily at a level of adequate living—to satisfy prevailing standards of what is necessary for health, efficiency, the nurture of children, and for participation in community activities. This is not a "subsistence" budget, nor is it a "luxury" budget; it is an attempt to describe and measure a modest but adequate standard of living.

In general, whenever appropriate scientific standards are available they have been used as a starting point. These technical standards were then translated into a list of foods and into a description of housing by reference to the actual buying and renting practices of families with moderate incomes.

For clothing and other goods and services, allowances were established to meet prevailing standards of what is necessary for health, efficiency, and participation in social and community activities, with adjustments to take account of geographical differences. Here also, actual lists were made on the basis of records of family purchases obtained in surveys made by the Bureau of Labor Statistics over a period of years by interviews with housewives.

The budget is unique in that it represents, not an "ideal" budget, or a "judgment" budget devised by a few people, but rather the actual choices of American families. It was determined objectively. In considering this budget, emphasis should be placed upon the quantities and kinds of goods of which it is composed. Judgment on its adequacy should be based upon the level of living that it represents in a period of more nearly normal prices rather than upon its dollar cost at today's high prices.

The cost of goods and services included in the city workers' family budget for four persons in

occupational expenses, which add from 8 to 12 percent to the cost of goods and services—amounted to \$3,004 and \$3,458, respectively, in June, 1947. These totals do not take account of the rise in retail prices of living essentials—especially food—which took place after June, 1947.

In March, 1946, when the budget was first priced, and prior to the rapid rise in prices of living essentials which accompanied the discontinuation of price controls in the summer of 1946, the total cost of goods and services ranged from \$2,345 in Houston to \$2,718 in Washington, D.C. Addition of taxes, insurance, and occupational expenses brought the totals at that time to \$2,532 in Houston and \$2,985 in Washington.

The cost of the city worker's family budget for each of the 34 cities surveyed for the Bureau's consumers' price index is shown in the accompanying table in which the cities are arranged in descending order of the total cost of goods and services (only) in June, 1947. —FRANCIS S. STEIN

PRINCE EDWARD ISLAND. An eastern maritime province of Canada. This, the smallest province, is about 120 miles in length, with an average width of 20 miles, and has an area of 2,184 square miles. Population (1941 census), 95,047; estimated (1948) at 93,000. Principal religious membership (1941 census): Roman Catholic, 42,743; United Church, 24,005; Presbyterian, 14,724; Anglican, 5,739; and Baptist, 5,443. In 1946 there were 2,793 live births, 874 deaths, and 837 marriages. Education (1945-46): 20,632 students enrolled in schools and colleges. Chief towns: Charlottetown (capital), 14,821 inhabitants in 1941; Summerside, 5,034.

Production. The gross value of agricultural output in 1947 was \$21,547,000. Value of all major field crops produced on 485,000 acres in 1947 amounted to \$21,242,000. Chief field crops (1947): oats, 4,270,000 bu. (\$3,459,000); mixed grains, 2,459,000 bu. (\$2,090,000); potatoes, 5,873,000 cwt. (\$9,456,000); field roots, 3,300,000 cwt. (\$2,475,000). Livestock (June 1, 1947) included 95,300 cattle (\$6,825,000), 23,800 horses (\$2,592,000), 68,700 swine (\$1,891,000), 48,600 sheep (\$551,000) and 1,369,000 poultry (\$1,600,000). Fox breeding is carried on extensively. There were 503 fur farms in 1946 with 502 farms reporting fox. Value of fur pelt production in the season 1946-47 was \$658,962. The value of fish marketed in 1946 was \$4,470,877. Lobster fishery is the greatest factor in the fisheries of the Island, followed by cod, hake, mackerel, and herring. In 1947 the estimated production of creamery butter was 3,660,000 lb., valued at \$2,050,000. Cheese production amounted to 658,000 lb., with a value of \$207,000. The estimated total farm value of farm poultry meat and eggs was \$3,141,000.

Manufacturing: In 1946 there were 246 manufacturing establishments employing 1,755 persons; salaries and wages paid totaled \$1,651,469; cost of materials amounted to \$7,582,046; gross value of manufactured products during 1946 was \$11,200,310. The two most important industries are fish curing and packing, and butter and cheese, accounting for 58 percent of the entire gross production. There were 86 sawmills in operation in 1946, reporting a gross value of production of \$562,631.

Government. Finance (year ended Mar. 31, 1948): net combined revenue \$5,515,416 (1949 est. \$5,220,680); net combined expenditure \$7,228,693 (1949 est. \$6,791,412).

Executive authority is vested in a lieutenant governor who is advised by a ministry of the legislature. In the Legislative Assembly there are 30

TOTAL COST OF GOODS AND SERVICES

City	June 1947		March 1946	
	Total cost of goods & services	Est. total cost of budget	Total cost of goods & services	Est. total cost of budget
Washington, D.C.	\$3,111	\$3,458	\$2,718	\$2,985
Seattle, Wash.	3,054	3,398	2,660	2,913
New York, N.Y.	3,010	3,347	2,593	2,820
Milwaukee, Wis.	2,988	3,317	2,575	2,811
Boston, Ma.	2,981	3,310	2,598	2,842
Detroit, Mich.	2,974	3,303	2,578	2,813
Chicago, Ill.	2,973	3,291	2,585	2,761
Minneapolis, Minn.	2,965	3,282	2,550	2,779
Chicago, Ill.	2,965	3,282	2,561	2,793
San Francisco, Calif.	2,964	3,317	2,582	2,853
Baltimore, Md.	2,944	3,260	2,565	2,797
St. Louis, Mo.	2,928	3,247	2,580	2,824
Madison, Wis.	2,925	3,276	2,567	2,826
North Platte, Neb.	2,919	3,241	2,563	2,804
Memphis, Tenn.	2,912	3,220	2,524	2,750
Los Angeles, Calif.	2,910	3,251	2,512	2,766
Birmingham, Ala.	2,904	3,251	2,521	2,781
Richmond, Va.	2,904	3,223	2,542	2,776
Cleveland, Ohio	2,897	3,200	2,495	2,712
Portland, Maine	2,894	3,200	2,511	2,735
Denver, Colo.	2,870	3,168	2,494	2,711
Philadelphia, Pa.	2,867	3,203	2,442	2,681
Scranton, Pa.	2,866	3,163	2,422	2,623
Savannah, Ga.	2,855	3,150	2,502	2,721
Portland, Oreg.	2,854	3,161	2,521	2,748
Atlanta, Ga.	2,853	3,150	2,475	2,691
Jacksonville, Fla.	2,843	3,135	2,406	2,677
Manchester, N.H.	2,837	3,132	2,481	2,700
Cincinnati, Ohio	2,830	3,119	2,467	2,678
Buffalo, N.Y.	2,810	3,095	2,415	2,615
Indianapolis, Ind.	2,790	3,098	2,440	2,667
Kansas City, Mo.	2,789	3,010	2,405	2,603
Houston, Tex.	2,735	3,007	2,345	2,532
New Orleans, La.	2,734	3,004	2,381	2,573

June, 1947, ranged from \$2,734 in New Orleans to \$3,111 in Washington, D.C., the lowest and the highest cost cities among the 34 surveyed by the B.L.S. The estimated total cost of the budget for these two cities—including taxes, insurance, and

members elected for a five-year term. Four members in the Senate and four elected members in the House of Commons represent the province in the Dominion Parliament at Ottawa. Lieutenant Governor, J. A. Bernard (app. May 18, 1945); Premier, J. Walter Jones (Liberal). At the provincial general election of Dec. 11, 1947, there were elected 24 Liberals and 6 Progressive Conservatives. See CANADA.

PRISONS, PAROLE, AND CRIME CONTROL. Some years ago, Professor Roscoe Pound of the Harvard Law School said, in one of his public lectures, that we have more crime in this country for the same reason that we have more automobiles, more radios, more newspapers and magazines, more railroads, and more large cities. Implicit in this statement is a deep-seated sociological truth, that a highly developed technological society, such as ours, with its high rates of mobility and change creates constant pressure upon the individual for adjustment and readjustment. Certainly, the search for the cause or the causes of crime has been futile and the administration of a criminal law based on an equation of offense to punishment is an 18th century philosophy practiced in a 20th century society.

While the core of the older system of criminal justice still remains and is strongly entrenched in tradition, it has not entirely withstood the attempts to change and adapt the system to modern knowledge and social needs. Thus, probation, the juvenile court, recent legislation on the treatment of the alcoholic and sex offender, and the establishment of Youth and Adult Correction authorities, have added increasing discretionary powers in the administration of justice which minimizes the importance of the offense as contrasted to the need for understanding and treating the individual in terms of his maladjustment and readjustment to society.

Similar changes are taking place in the administration of "correctional programs" as contrasted to the administration of "penal institutions." This field of work is attracting an increasing number of better qualified and professionally trained persons than was true even ten years ago. Several universities have established special curricula in correctional administration to prepare young men for a career in this area of service; notably New York University, University of Wisconsin, Notre Dame University, Ohio State University, and University of Maryland.

As a result the agencies of treatment within the institutional setting, classification, education, medical and psychiatric facilities, will become of increasing concern to institutional administrators and will reflect the new critical spirit among the younger and better-trained prison worker.

Is Crime Increasing. Aside from these theoretical considerations which are slowly being translated into practical terms, the extent of crime throughout the country as reflected in the reported crime rates has this year in some areas taken a downward trend. According to the Uniform Crime Reports published by the Federal Bureau of Investigation, the first six months of the year show a total decline in offenses reported of 1.8 percent as compared to the first six months of 1947. These figures are based on reports of the police in 2,094 cities representing 88 percent of the nation's urban population. With the exception of such offenses as aggravated assault which increased 4.0 percent and larceny which increased 0.6 percent, all other offenses showed a decrease. Auto theft decreased 12.7 percent, robbery 5.6 percent, murder 2.3 per-

cent, burglary 1.9 percent, and rape 0.4 percent.

On the other hand, crime in the rural areas has shown a total increase of 3.8 percent for the first six months of this year over the same period last year. In these areas, rape, robbery, and auto theft have decreased 9 to 7 percent, respectively, while murder, burglary, and larceny have increased one to almost 9 percent, respectively. From these figures, it is not possible to conclude definitely that crime is either decreasing or increasing. These figures must be interpreted in relation to increases in population as well as in shifts of population from urban to rural areas.

Prison Population. In contrast to the figures on crime rates, the statistics on court commitments and prison population reveal a somewhat different situation. Data available from the Census Bureau is to the effect that the adult prison population was higher at the end of 1947 than in any other year since 1941. On Dec. 31, 1947, there were 153,199 persons in the State and Federal adult institutions. This is an increase of more than 8 percent over the year-end population of 1946 or an increase of 11,795 persons confined in penal institutions. These figures do not include commitments or population statistics for juvenile institutions, military and naval correctional institutions, and local jails and workhouses. Unfortunately, the information for 1948 is not yet available.

While the population in State institutions has increased, in Federal institutions, the situation is the reverse. The following table shows the number of Federal prisoners committed over the 4-year period of 1945-48.

FEDERAL PRISONERS RECEIVED
(Fiscal Year Ended June 30)

	1945	1946	1947	1948
Total.....	21,200	20,112	10,626	10,787
War-related offenses *.....	0,588	4,805	3,475	1,073
Other offenses.....	14,612	15,307	10,151	15,114
Immigration.....	3,996	3,620	3,980	3,200
Juvenile Delinquency				
Act.....	911	1,221	870	677
Liquor.....	2,988	2,425	1,906	1,838
Narcotic drugs.....	1,134	1,261	1,447	1,443
NMVTA.....	1,072	1,097	2,740	2,012
Others.....	4,511	4,774	5,100	5,344

* Selective Service, other war offenses, and military prisoners.

One of the probable reasons for this decline in Federal prison population may be due to the decrease in automobile thefts which comes under the Federal Dyer Act and to a general decrease in juvenile delinquency.

Army and Navy Correctional Programs. Both branches of the military service have continued the development of their correctional programs consistent with the best thinking and progressive treatment programs. As of June, 1948, there were 8,980 general prisoners in confinement. This compares with a peak load of 34,766 confined in November, 1945. Of the total of 8,980 prisoners confined, 5,004 were in U.S. Disciplinary Barracks, 3,150 in Federal prisons, 376 in Guard houses in the U.S., and 450 overseas.

Of the approximately 94,000 general prisoners in confinement from January, 1940, through June, 1948, about 43,000 have been restored to duty. Of these, approximately 4,200 have been reconfined, or a rate of less than 10 percent.

Because of the rapidly declining population, the Rehabilitation Centers were discontinued and at present the Army is operating only 5 Disciplinary Barracks. It is the policy of the Army to encourage as many qualified general prisoners as possible to earn restoration to duty with a view to eventual

honorable discharge. If this does not appear possible, every effort is made toward a constructive return to civil life.

The Navy is operating 4 installations, 2 Disciplinary Barracks, located at Terminal Island, Calif., and Portsmouth, N.H.; and 2 Retraining Commands at Mare Island, Calif., and Norfolk, Va. A Corrective Services Division had been established in the Bureau of Naval Personnel charged with the responsibility of developing a modern penal and correctional program. The top confinement population in all Navy installations reached a total of over 16,000 men in 1945.

As of June 30, 1948, there were 2,346 general court-martial prisoners confined in the 4 naval installations. This figure does not include 301 prisoners in Federal institutions. During the first three months of this fiscal year 983 general court-martial prisoners were released. Of this group about 24 percent were restored to duty.

Juvenile Delinquency. The rates of juvenile delinquency throughout the country have shown a general decline, especially since 1945, the last year of the war. The two sources of statistics on juvenile delinquency are the reports on arrests published by the Federal Bureau of Investigation and the reports on juvenile court cases by the U.S. Children's Bureau. These reports show that in 1943, the second full year of our participation in the war, the juvenile delinquency problem became quite spectacular.

In that year, there was reported about 47,800 arrests of juveniles, an increase of 26 percent over the previous year, and about 82,800 juvenile court cases, or an increase of 34 percent over the previous year. The peak was reached in 1945 with about 49,500 arrests and 84,600 court cases. In 1947, however, they had dropped to a little more than 37,800 arrests and about 73,400 court cases. Both figures are lower than in any year since 1938.

The conclusions which may be drawn from these data are that such social forces as the disruption of family life, the entrance of mothers into the labor market, increased mobility of families and young people, and the migration from rural to urban industrial centers could well be the determining factors in the rate of juvenile delinquency. Another important factor, undoubtedly, has been the impetus given by the continuing efforts of the Attorney General's Conference on Prevention and Control of Juvenile Delinquency and the resulting concern on the part of communities regarding local responsibilities for the prevention of juvenile delinquency. Eighteen reports of the National Conference on Juvenile Delinquency are now available in printed form from the U.S. Government Printing Office.

The Problems of the Sex Offender. The inadequacies of dealing with the sex and constitutional psychopath in accordance with the traditional legal and corrective methods is another problem being given serious consideration in many States. The law in most States relating to sex offenses do no more than specify the punishment for certain types of sex offenses. The application of the well worn tests of insanity and mental deficiency have not worked out and modern psychiatry has shown that the sex offender is neither insane nor feeble minded but may actually be an abnormal individual in need of restraint and treatment for the protection of the community.

So far California, Illinois, Michigan, Minnesota, and the District of Columbia have enacted legislation which recognizes this fact. The Massachusetts State Legislature has some legislation under

consideration. During the past year, the New York State Legislature has appropriated \$35,000 to the State Department of Mental Hygiene for a study of the medical, psychiatric, and psychological aspects of sex crimes. The study will be conducted at Sing Sing Prison, to which all sentenced sex psychopaths will be sent.

The answer to the problem of the abnormal sex offender would seem to be in the establishment of competent boards who would determine whether the offender is suffering from a morbid personality or some other abnormality, and legal provisions for indefinite commitment to an institution for psychiatric care and treatment.

Probation and Parole. While probation and parole are accepted as essential parts of a modern correctional program, there are still a number of States in which both exist in name only. However, each year marks some advance and progress, as reflected in State legislation during the year.

In New Jersey, a parole law, enacted in accordance with the recently adopted constitution, establishes in the Department of Institutions and Agencies an autonomous parole board of 3 members appointed by the governor for staggered terms of 6 years. Michigan has enlarged its parole board from 3 to 4 members. In Louisiana, a part-time parole board has been reestablished with the members' terms concurrent with that of the governor. A parole officer and other employees serving at the pleasure of the governor are provided for to do the work now being done by the Department of Welfare.

Enabling legislation in Kentucky, Mississippi, and South Carolina passed this year authorizes the governors of these States to execute the interstate compact for probation and parole supervision. This reduces to 4 the number of States which have not acted on the compact: Georgia, Nevada, North Carolina, and Texas.

In Kentucky, prisoners serving first sentences of 15 years or less may now apply for parole after serving one third of the sentence, or at least 6 months, which is a reduction in the minimum time required for parole eligibility. And in Massachusetts, the salaries of the parole board have been increased from a range of \$2,250 to \$5,500 to a range of \$4,000 to \$9,000.

Other State Action and Legislation. One of the very important pieces of State legislation was passed in Massachusetts which now becomes the fourth State to set up a Youth Correction Authority with the establishment of a Youth Service Board. The other States now having similar legislation are California, Minnesota, and Wisconsin. The Massachusetts board consists of 3 full-time members (serving staggered terms of 5 years) appointed by the governor. All juvenile offenders will be committed to the Youth Service Board by the courts rather than to specific institutions and all training schools have been placed under the authority of the board.

Practically all of the other progressive legislation in other States is concerned with improvements in the treatment of the juvenile delinquent. New legislation in New York provides that children under 15 years of age charged with capital crimes shall be considered juvenile offenders and placed under the jurisdiction of the juvenile authorities. Children between 15 and 16 years of age accused of such offenses may be transferred from the criminal court to juvenile jurisdiction at the discretion of the judge. Formerly these offenses were excluded from juvenile court jurisdiction.

This is in line with recent similar and perhaps more progressive legislation in California, Con-

necticut, Indiana, Michigan, and Minnesota which placed all offenders under the age of 18, regardless of charge, under the jurisdiction of the juvenile courts.

The Juvenile Code Commission of Kansas which was granted an appropriation by the 1947 State Legislature to study needed changes in State laws pertaining to children, is prepared to submit its recommendations to the 1949 session. The recommendations will include sweeping revisions of statutes relating to juvenile courts, adoptions, child labor, and licensing of boarding homes.

In Missouri, measures substantially increasing appropriations and providing for more flexible programs at the 3 State training schools, Booneville, Chillicothe, and Tipton were passed and submitted to the governor. The new appropriation will make possible an increase in personnel, new cottages, an education building, and a new power plant at Booneville. A second measure establishes a minimum age of 12 for all commitments to these institutions and a maximum age of 17 for boys and 21 for girls, and authorizes the commitment of children under the minimum age to the guardianship of the division of welfare.

A State reorganization act in Virginia consolidated the Welfare and Corrections Department, the parole board, and the program of hospital care and treatment for indigents formerly in the Health Department, to form the Department of Welfare and Institutions.

The Virginia Advisory Legislative Council was directed to study the advisability of establishing a statewide system of district juvenile and domestic relations courts, to be governed by a Court Commission. The results of this study is to be reported to the General Assembly by Sept. 1, 1949.

A number of States have instituted programs looking toward the construction of new facilities and institutions. In Florida plans have been completed for a new institution for women to be called the Female Correctional Institution, located at Ocala, Fla., at an estimated total cost of about \$5 million. Construction has been started on a correctional institution for the younger male offender to be located at Apalachee. In South Carolina the construction of a new State penitentiary located at Columbia has been approved. In California, progress is reported in the construction of the new medium-security prison at Soledad and a reception unit at Chino. Plans for future construction to round out the State prison system include a State vocational institution at Tracy and a State medical center.

Federal Prison Industries, Inc. Federal Prison Industries, Inc., is a Government Corporation authorized by Congress in June 1934, and established in December 1934 by an Executive Order of the President. The Board of Directors, appointed by the President, serve without compensation and consist of 5 persons, one each representing industry, labor, agriculture, retailers and consumers, and one representing the Attorney General. The Corporation is required to make an annual report to the Congress on the business of the Corporation and on the condition of its funds.

The Corporation operated 39 different industries in 17 of the Federal penal and correctional institutions providing employment for about 3,100 prisoners. Products are sold only to other Federal Government departments and agencies at current market prices. During the war, Federal Prison Industries produced approximately \$80 million worth of vitally needed war goods. In addition, the Corporation is financing an extensive vocational and

trade training program in all Federal institutions.

The industries operated by the Corporation include the manufacture of brooms and brushes; shoes; textile and canvas goods; clothing; mattresses; office furniture, both wood and steel; and the canning of fruits and vegetables. The total sales of goods during the past fiscal year exceeded \$14,785,000 of which the net earnings during the same period amounted to slightly less than \$3 million which represented an increase of about \$1 million over the last fiscal year. Wages to each inmate employed averaged from \$15 to \$20 per month and these earnings are kept either as a savings account for the inmate or sent out to the inmates' dependents.

All funds of the Corporation are held in the Treasury of the United States and during the year the Corporation paid to the U.S. Treasury a dividend of \$2 million, making a total dividend paid to the U.S. Treasury up to June 1948 of \$11,688,000.

Prison Industries in State Institutions. This situation however is not generally true in State prison systems. For about 20 years, prison industries and the full utilization of prison labor has provided the most disheartening picture of the whole prison system. Even the best State prisons have had their programs undermined by the presence of hundreds of men deteriorating in idleness. Federal and State legislation, beginning in 1929 and culminating in 1940, prohibited the interstate shipment of prison-made goods and practically paralyzed industry in most State prisons.

With the exception of the war years, when State prisons were permitted to manufacture goods for the Federal Government, only about 20 percent of the inmates in State institutions have at any time been employed in productive industries. With the increase in population in State penal institutions, the problem of idleness is once again harassing the prison administrator and except for a few States very little is being done to solve the problem of idleness. The State use system which is the only practical substitute for the contract and the open market system has so far not been adequately developed or exploited. The need for a concerted attack on a cooperative national level supported by adequate legislation is becoming more and more obvious.

JAMES V. BENNETT

PRODUCTION AND MARKETING ADMINISTRATION. An agency of the U.S. Department of Agriculture, created Aug. 20, 1945, which consolidated several existing agencies. It consists of 9 commodity branches and 11 functional branches. Under authorization by Congress and the bylaws of the Commodity Credit Corporation, it has been delegated authority to carry out programs of the Corporation. One commodity branch exists for each of the following: cotton, dairy products, fats and oils, fruits and vegetables, grain, livestock, poultry, sugar, and tobacco. Each branch is responsible for the commodities over which it has jurisdiction, for production, adjustment, price support, marketing research and services, and distribution. The agency may establish programs to effect economies in processing and marketing food, and may cooperate with industry and other agencies of the Department in developing new or substitute products. It supervises market news services and sets and maintains standards and performs inspection and grading. Administrator: Ralph S. Trigg.

PROTESTANT EPISCOPAL CHURCH. This body entered the colonies in 1607, as the Church of England. It

became autonomous and adopted its present name in 1789. On Jan. 14, 1947, Henry Knox Sherrill was formally installed as the 20th Presiding Bishop of the Episcopal Church. Bishops consecrated during 1948 included George T. Gunn, Coadjutor, Southern Virginia; Charles F. Hall, New Hampshire; Louis C. Melcher, Coadjutor, Southern Brazil; J. Wilson Hunter, Coadjutor, Wyoming; F. Eric Bloy, Los Angeles; Lauriston L. Scaife, Western New York; William J. Gordon, Alaska; Russell S. Hubbard, Suffragan, Michigan; Charles A. Clough, Springfield; Theo. N. Barth, Coadjutor, Tennessee; M. George Henry, Western North Carolina; Hamilton West, Coadjutor, Florida; Walter M. Higley, Suffragan, Central New York.

On Apr. 7, 1948, in Manila, three Bishops consecrated three Filipinos as Bishops for the Philippine Independent Church. The Philippine Church, with some 2 million baptized members and 35 Bishops, comprises about 10 percent of the Christians in the island.

During the year the Church gave more than a million dollars toward European and Asiatic relief. This money together with thousands of pounds of clothing, food, etc., is administered through Church World Service, the cooperative relief agency of the Churches of America. A similar sum will be raised in 1949.

In July and August 66 Bishops journeyed to London to attend the Lambeth Conference, meeting at Lambeth Palace under the presidency of the Archbishop of Canterbury. A total of 329 Bishops attended, representing all parts of the Anglican Communion.

Communicants in 7,864 parishes totaled 1,650,538 in 1948. The baptized persons numbered 2,436,589; baptisms during the year totaled 110,618, and confirmations, 73,251. A total of 149 priests were ordained, bringing the total number of clergy to 6,506. Enrollment in Church schools totaled 462,179. The General Convention approved a 1949 budget of \$3,910,000.

Outstanding events in 1949 will be the 400th Anniversary of the Book of Common Prayer, and the triennial General Convention, meeting in San Francisco, in September-October.

Headquarters of the National Council, which is also the board of directors of the Domestic and Foreign Missionary Society, are in the Church Missions House, 281 Fourth Ave., New York 10, N.Y. The official periodical is *Forth*, of which William E. Leidt is the editor. President of the National Council, Rt. Rev. Henry Knox Sherrill.

PSYCHIATRY. The most discussed event of the year in psychiatry was the International Congress on Mental Health, held in London, August 11-21, under the presidency of Dr. J. R. Rees, and reported in the *British Medical Journal*, Aug. 21 and Aug. 28, 1948. Some 2,000 delegates from more than 50 countries were in attendance.

Administratively the significant issue of the Congress was the setting up of a permanent international organization, the World Federation for Mental Health, whose purposes are implied in its title. The World Federation is to be made up of the professional societies in the several countries representing various aspects of mental health in its broadest terms—anthropologists, sociologists, educationists, psychologists, and psychiatrists. By this composition a fact, long recognized by many, was given world-wide currency, namely, that the health of the mind is much more than merely a medical question in the traditional sense and involves disciplines dealing with all human relationships.

An executive committee of 12 members was provided, representing different countries and it is proposed to hold annual assemblies in various parts of the world. A Russian delegation, although invited, was not present at the Congress.

Space permits mention of but few features of this 10-day meeting. Up to World War II psychiatry had made little headway in China, as Dr. Ch'eng pointed out. He indicated that social stability had been favored by the characteristic closely-knit family relationships in that country, and that contact with western civilization had not strengthened these standards. Because of these age-old family ties and a strong sense of filial obligation involutional psychoses are comparatively rare. From other sources, too, we have had evidence that depressions in later life are infrequent in China because of the customary respect for and care of the aging person.

The very important subject of pathogenic publicity media was touched on by Professor Gokay of Turkey who reported studies of the effects of gangster films in developing adolescent criminals. A wholesome step has been taken in that country in prohibiting accounts of suicide in the press.

The psychiatric problems of childhood were discussed at considerable length during the Congress, with attention focussed largely on the concepts of "aggression," "frustration," "guilt," etc., that have been elaborated so extensively and variously in recent years. Modern psychiatry in its intensive search for causes of mental illness turned naturally and fruitfully to the childhood years, and child psychiatry has emerged as a most important division of the larger field. Here, from the very nature of the situation, the responsibility of the investigator is very great; and while extremists are perhaps more prone to appear in psychiatry than in any other branch of medicine, one may venture to express regret that they should be found dealing with childhood. One reason why today so many children are in the hands of psychiatrists may well be that they have not so good homes to live in as they had in other years. Without doubt there would be general agreement that studies of the early years of life are fundamental to an understanding of mental health and unhealth at all ages, and that prevention of mental troubles in adult life involves not only the question of heredity and constitution but also the discipline, habit formation, and human environment of childhood; it must also be said that there is sharp difference of opinion as to the validity and even the legitimacy of certain practices of so-called child analysis.

A development from which much may be hoped was the organization of the International Association of Child Psychiatry with Dr. Frederick Allen of Philadelphia as first president. The next international conference will be held in the latter city.

One session of the Congress had to do with psychiatry in the field of relations between nations, as an instrumentality to promote peace and abolish war. Here psychiatry and all the social sciences need to proceed warily. It is all too evident that an excess of zeal—even if in the right direction—on the part of the more assured and optimistic members of the profession does not inspire confidence on the part of government agencies. Psychiatry has been, especially since World War II, a victim of too much publicity and the suspicion of pretensions beyond capacity of performance, and is itself in part responsible for this state of affairs.

There have been two previous international congresses of psychiatrists and mental hygienists

(Washington, 1930; Paris, 1937), but the recent one was of broader scope, and the permanent body, open to all nations, which is set up with machinery for continuous exchange and collaboration encourages hope that social sanity among the peoples may not be an utter and ultimate impossibility; and if not, that the social sciences may contribute their humble part to such a consummation. Possibly the wisest pronouncement during the London Congress was the quotation by Professor MacCalman of Aberdeen of a Chinese proverb: "If there is righteousness in the heart there will be beauty in the character; if beauty in the character, harmony in the home; if harmony in the home, order in the nation; if order in the nation, peace in the world."

Trends in Psychiatry. The earliest observations naturally dealt with conspicuous symptoms—excitement (mania), depression (melancholia), mental enfeeblement (dementia). Through the centuries new diagnostic terms were added, many became obsolete or were replaced by others. Gradually the list of types of mental disorder expanded, syndromes replaced symptoms, and with more intensive study of the behavior of patients, objective differential criteria were refined, sometimes to a point that made agreement between different clinicians difficult. Kraepelin eventually described 9 subtypes of dementia praecox, although specifically stating that the delimitation of the several clinical groups was artificial and that many transitional forms occurred.

With the rise of histologic techniques and especially differential staining methods during the latter half of the 19th century and the demonstration of characteristic changes in the central nervous systems associated with certain mental diseases; notably paresis, arteriosclerosis, toxic, defective, and senile states; the organic aspect of psychiatry came into prominence; and around the turn of the century hope was growing that eventually a pathological basis would be established for most forms of psychical disorder. Particularly fruitful were the histo-pathological studies of Nissl, Alzheimer, and others during a period of great research activity in many quarters, strengthening the bonds between psychiatry and the other medical sciences.

At this time, too, another tendency was developing—emphasis on the psychology and the psychological factors of mental illness. Kraepelin, a pupil of Wundt, had established at Heidelberg the first experimental laboratory for the study of psychotic and neurotic patients. The work of Charcot, Janet, Bernheim, Freud, Prince, and others called attention to the possibility of purely psychogenic origin of certain abnormal mental states. And if such states could be caused by psychological factors, they should be curable by the same means, as Babinsky set forth, i.e., by psychotherapy. There was much controversy between those who, taking their cue from traditional medicine, insisted upon an organic basis for psychiatric disorders—that mental disease meant brain disease—and those who laid stress on psychogenesis, pointing out that in the majority of mental cases related brain pathology could not be demonstrated. Was the patient suffering from a "brain spot" or a "mind twist," as Southard vividly put it?

The proponents of psychogenesis and psychotherapy fell into several groups. There were those who might be called the eclectic or conservative group but who adhered to no "school," using suggestive therapy in accordance with commonly accepted psychological principles as part of a multi-dimensional treatment program. Myerson

used the expression "total-push" to describe such a holistic method.

Followers of the doctrines of Freud constituted a second group of a strictly "school" or sectarian type; and that this school has attracted more attention than all the others put together requires no mention here. Its popularity has within recent years been particularly manifest in the United States; much less so in Austria, the country of its origin, or in France. Spokesmen of this group have sometimes taken the unfortunate stand that psychoanalysis is essential in good psychiatric practice and that the student's training in psychiatry is incomplete without a personal analysis.

Regrettably the zeal of the Freudians and their derivatives has tended to produce schism in the ranks of the profession and thus impair confidence in the minds of a public that has no criteria for distinguishing psychiatry as such from its sectarian offshoot. Critics both within and without the profession have not been lacking. The most recent, Dr. Hiram K. Johnson (*Psychiatric Quarterly*, April, 1948) has anatomized the Freudian gnosis in very thorough and scholarly fashion. He likens psychoanalysis "to the vogue of phrenology and animal magnetism in the preceding century." An editorial in the *Journal of the American Medical Association* (Oct. 16, 1948) takes approving notice of Johnson's criticisms.

Another imposing group of psychotherapists is that of the clinical psychologists. Devising intelligence tests, personality inventories, scales for measuring aptitudes and morbid tendencies, the psychologists have made most valuable contributions to psychiatric procedure. But the borders of psychology have widened *pari passu* with those of psychiatry and as both focus on the person they inevitably overlap. Each discipline is concerned with both normal states and deviations therefrom; and the deviations are discussed respectively under the captions "abnormal psychology" and "psychopathology"—terms which mean essentially the same thing.

Naturally enough the clinical psychologists, as their field expanded, took on treatment as well as diagnostic functions, and this border area between psychology and psychiatry has been a particularly controversial one. The situation is unsatisfactory. Psychologists are accepting and treating patients with psychiatric disorders who, the doctor holds, should be under medical care. This accords with the position of contemporary medicine that generally speaking a person is not sick exclusively in mind or exclusively in body but rather as a biological (psychobiological) unit and as such becomes a medical problem. The recent vogue of so-called psychosomatic medicine is in line with this view. The American Psychiatric Association and the American Psychological Association are endeavoring to arrive at a common understanding in these matters.

One of the unsavory by-products of clinical psychology is the fact that it encourages quackery. Totally unqualified persons posing as psychologists open offices and carry on consulting practices. The variety and scope of this abuse were admirably exemplified in Steiner's book, *Where Do People Take Their Troubles* (Houghton-Mifflin, 1945). Dael Wolfe, Executive Secretary of the American Psychological Association (*Transactions, N.Y. Academy of Sciences*, March, 1948) outlines steps to be taken "to protect society against the psychological racketeer," chief of which is the establishment of licensing laws such as regulate the practice of medicine and ensure the prosecution of quacks.

The extraordinary range of the more legitimate forms of psychotherapy, from both the psychological and psychiatric standpoints, is set forth in considerable detail by Snyder (*Psychological Bulletin*, July, 1947).

In psychiatry probably more than in other medical disciplines when the pendulum swings, it swings too far. There have been those who have felt that the whole concept of psychogenesis and psychotherapy, important as it is, has been overworked, at times to the neglect of other factors and indications. Sargent and Slater's book, *Physical Methods of Treatment in Psychiatry* (2nd ed., 1948, Williams and Wilkins, Baltimore) marks a timely reaction and bids psychiatrists remember that after all mental patients have bodies as well as minds and that there are physical and physiological routes to the psyche as well as psychological ones.

Studies in connection with the somewhat heroic treatment measures of recent years—insulin coma, electroshock, psychosurgery, and accelerated interest in the biochemistry and electrophysiology of mental deviations, as well as the increasing attention to psychosomatic relationships on the part of all branches of medicine, all of which have been referred to in previous editions of the YEAR BOOK, seem to indicate a return swing of the pendulum whereby American psychiatry, capitalizing on its splendid accomplishments and correcting its errors, may become even more closely integrated into the corpus of medicine.

Nosophobia (fear of disease). It is not irrelevant to note that the law of supply and demand operates in medicine as well as in economics. Published description of a "new" disease tends to arouse fear in nervous persons that they may have this disease. It is not an altogether unreasonable question whether the excessive publicity of psychiatric issues, in association with and following World War II, has not favored an increase of neuroticism in and out of the armed services.

Nosophobia was the subject of the twenty-first Maudsley lecture by Professor Ryle of Oxford (*Journal of Mental Science*, January, 1948). He stressed the ubiquity of this dis-ease and many of its avoidable causes. In determining the order of frequency of the common diseases seen by him in a general consulting practice, Ryle found that *Anxiety* (without evidence of serious organic trouble) came second on the list of the 12 more frequent diagnoses.

Sometimes these fears have their origin in the doctor's office. "Specialists in the physical branches of medicine too often err through concentration on a part of the body to the neglect of the whole person." And again, "the mechanistic, objective character of modern investigations also tends to distract the doctor's from the patient's thought and to direct attention away from private sensibilities and present needs." There will be general agreement with Professor Ryle that "fears of disease are widely engendered through the advertisements of proprietary medicines; by the outpouring of ill-judged medical articles in the lay press, of a type even more familiar, perhaps, to American than British readers; and by unorthodox practitioners."

Publicity campaigns in support of research in heart disease and cancer have also their seamy side in causing unnecessary anxiety in the victims of these diseases and phobias in others who have them not. As Ryle points out cancer phobia without cancer is much commoner than cancer phobia with cancer. In this field of anxiety and fears concerning disease, real or imagined, there is need of an

everyday kind of psychiatry that every doctor should conscientiously practice.

Hospital Services. After long and careful preparation the Rating and Inspection Service, sponsored by the Psychiatric Foundation (see 1948 YEAR BOOK) has begun operation under the directorship of Dr. Ralph W. Chambers, a psychiatrist of wide experience in all aspects of hospital procedure and administration. This is undoubtedly the most important step within the present century in practical service in a field that represents in magnitude the greatest public health problem. According to the inspection and rating plan, mental hospitals, public and private, may make application for inspection by trained inspectors who will appraise every aspect of hospital activity against a set of minimum standards.

To meet these standards specific recommendations will be made, with a reasonable time for putting them into effect. Failure to achieve results within the specified time will automatically classify the institution as substandard, thus affording a basis for legislative and community leaders to demand ways and means for the necessary corrective measures. While the initiative is thus left with individual hospitals, it is believed that few will wish to remain unrated as such failure would *ipso facto* reflect unfavorably upon the institution.

Three major requisites to raise mental hospital standards to suitable level are: (1) increased accommodation to relieve serious overcrowding that exists virtually everywhere, and to provide for rising admission rates as the population increases; (2) increase in the number of trained physicians and of all other ranks of hospital personnel; (3) decrease in mental hospital loads by extension of psychiatric services in general hospitals and of out-patient clinics and other extramural services.

Federal grants to assist in building operations to increase bed accommodation were referred to in the 1948 YEAR BOOK. For training personnel, and also for research and development of mental health facilities, under the National Mental Health Act, Congress authorized an appropriation of \$9,028,000 for the fiscal year 1949. This is to supplement parallel work being carried on by the Public Health Service and the Veterans Administration. The latter organization, by improved techniques, has been able for the first time to raise its discharge rate of neuropsychiatric patients above its admission rate. The recent trend is shown in the following figures:

Period	Admissions	Discharges
July–December, 1946	26,528	25,296
January–June, 1947	29,841	29,128
July–December, 1947	31,508	31,773
January–June, 1948	29,268	30,892

In Canada the Federal Government appropriated \$4 million for provincial mental health programs in the past fiscal year, with subsequent annual increases to \$7 million a year. The Federal Department of Health set up an advisory committee on mental health consisting of provincial mental health authorities and representatives of university departments of psychiatry. Immediate objectives: training of personnel and research.

Extramural Psychiatry. Widely extended organization of various types of out-patient clinics is the third means of raising hospital standards and at the same time meeting the service needs of the country at large. 1948 recorded a noteworthy advance in this direction. Aided by grants by the U.S. Public Health Service, 36 states have established full or part-time out-patient clinics and may

have been able to expand their clinic activities. Altogether, 46 states now provide community psychiatric services under the National Mental Health Act. The Veterans Administration increased its mental hygiene clinics from 34 to 51 during the year.

Pollock (*Amer. J. Psychiat.*, January, 1949) reports that family care of mental patients is employed in 10 states and 3 Canadian provinces. Expansion of this very desirable supervised care facility has been retarded since 1941 because of war and postwar conditions. Nevertheless there has been progress in family care in California, Illinois, Ohio, and New York. It is gratifying to note that this type of community service for which Gheel, Belgium, has long been famous, has now been restored at Gheel which suffered so grievously during the war.

Industrial Relations. Psychiatry entered industry in 1915 when Dr. C. C. Burlingame joined the staff of the Cheney Silk Company in Connecticut. (*Digest of Neurology and Psychiatry*, August, 1948) The National Industrial Conference Board had recently been organized for a systematic study of labor relations and problems; and it was this Board that brought medicine, and with it psychiatry, into the field as an integral part of the industrial program. Burlingame traces this development, indicates accomplishments so far, and the vastly greater tasks that lie ahead.

A major contribution was the psychologically based recommendation that an injured employee be kept on the job whenever possible, and on full pay, even if his production were temporarily decreased. May not the early ambulation, advocated by surgeons today, hark back in part at least to that psychiatric principle enunciated more than thirty years ago?

Sir George Schuster of the British Government's Committee on Industrial Productivity (*Brit. Med. Jour.*, Sept. 11, 1948), discusses human relations in industry as Plato might have done in *The Republic*, and indicates how indispensable to the medical officer is that "specialized understanding" that good psychiatry, firmly rooted in common sense, represents. Sir George states the ends of industrial activity: (1) excellence (areté) of production—producing the right things with minimal expenditure of human effort and material resources; (2) satisfactory work conditions as the basis of a good life; (3) the industrial life fitted satisfactorily into the over-all social pattern of the nation.

Genetics. Controversy continues between exponents of heredo-constitutional factors and proponents of environmental or cultural factors in determining personality and behavior. Both sets of factors are of course involved and the problem is to establish their relative values. The geneticists appear to be consolidating a solidly scientific position. Kluckhohn and Murray (*Personality in Nature, Society and Culture*, Knopf, 1948) deprecate "the tendency of certain psychiatrists, sociologists, and anthropologists to neglect constitutional factors in theories of personality formation almost completely;" and Gregg (*American Psychologist* 3:397) comments that medicine and psychology, having neglected human genetics, are responsible for the old misconception "that heredity is a study of one's uncontrollable ancestors whereas it is one of the few fields that offer any dependable control over one's descendants."

Kallmann (*Psychiat. Quarterly*, October, 1947) reviews the present state of our information as to the psychiatric aspects of heredity and constitution. Heredity is "the transmission of potential

physical and mental properties from parents to children through genes." Not the disease but the predisposition is inherited. "Each predispositional faculty of response is related to the action of a certain gene or a combination of genes." The sources of all psychic and somatic functioning (total behavior) in "vital organic phenomena, determined by heredity" must be evaluated as preliminary to any psychological or social interpretation.

For example, while an individual is not predestined from birth to become a manic-depressive or a schizophrenic, the tendency to develop either of these disorders "cannot be explained without the assumption of a specific predisposition. . . . There is no known constellation of purely environmental circumstances that would produce a true schizophrenia or manic-depressive psychosis . . . in persons who do not have specific predisposition." Kallmann offers statistical estimates of average expectancy of schizophrenia as follows:

	Percent
In the general population	0.85
In children of one schizophrenic parent	16.4
In grandchildren of one schizophrenic parent	4.3
In nephews and nieces of one schizophrenic parent	3.9
In children of two schizophrenic parent	ca. 80.
In identical twin partners of schizophrenics	85.8

"The chance of developing a schizophrenic psychosis increases in direct proportion to the degree of blood relationship to a schizophrenic index case—a conclusive proof of the operation of heredity."

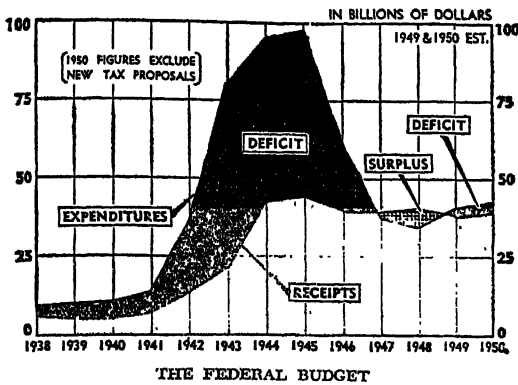
—CLARENCE B. FARRAR

PUBLIC BUILDINGS ADMINISTRATION. A unit of the Federal Works Agency, authorized to design and construct any type of Federal building, either by direct appropriation or by reimbursement from appropriations made to other agencies. It operates, maintains, and protects buildings under its jurisdiction, and disposes of certain types of real property declared surplus to the needs of the Government. It maintains a backlog of industrial plants, equipment, and machine tools that constitutes an emergency reserve of productive capacity. The components of PBA are the Offices of Design and Construction, Real Estate Management, Buildings Management, Administration, Solicitor, and Division of Industrial Properties. Commissioner: W. E. Reynolds.

PUBLIC FINANCE. During 1948, the Federal Government's receipts exceeded expenditures by a record amount, and for the second year since the ending of the war the U.S. Treasury was able to effect a large reduction in the public debt. Because of the reduced taxes and increased armament expenditures, however, the surplus was largely eliminated in the second half of the year. As a result, the importance of the surplus as an anti-inflationary factor, through its use in retiring debt held by the banking system, was greatly reduced.

The 1948 Budget. Budget receipts in the fiscal year ending June 30, 1948, totaling \$42,211 million, were \$2,168 million above those of the 1947 fiscal year and, coupled with a large decline in expenditures, resulted in a budget surplus of \$8,419 million for the year. Expenditures for the year totaled \$33,791 million, a decline of \$5,498 million from 1947. The excess of receipts over expenditures of \$8,419 million compared with a corresponding figure of \$754 million in the preceding fiscal year and was the largest budget surplus in United States history. During the period almost \$6,000

million of Government securities were redeemed, leaving the outstanding public debt \$252,300 million on June 30.



Direct taxes on individuals brought in almost \$1,500 million more than in the 1947 fiscal year, while corporation taxes yielded an additional \$498 million. These totals did not yet reflect the reduction in taxes provided by the Revenue Act of 1948, which became law in April. The increase in income tax receipts was partially offset by a decline in proceeds of sales of surplus property.

On the expenditure side, the largest decline, amounting to more than \$3,500 million, was accounted for by national defense. Almost half of this reduction was due to a decrease of \$1,700 million in leave payments made to the armed forces. Budget expenditures for naval defense were nearly \$1,400 million less than in 1947.

Expenditures for international affairs and finance in the fiscal year 1948 were almost \$1,800 million less than in the previous year. The principal reason for the reduction was the fact that the United States subscriptions to the International Bank and the International Monetary Fund, totaling \$1,400 million, were made in the 1947 fiscal year. In addition, drawings on the \$3,750 million loan to Great Britain were \$400 million less than in 1947, the loan being completely used up by Mar. 1, 1948.

The Economic Cooperation Act of 1948 provided that the sum of \$3,000 million be transferred to the Foreign Economic Cooperation Trust Fund and "considered as expended during the fiscal year 1948, for the purpose of reporting governmental expenditures." The effect of this bookkeeping transaction was to charge the budget in the fiscal year 1948 for expenditures to be made in the fiscal year ending June 30, 1949.

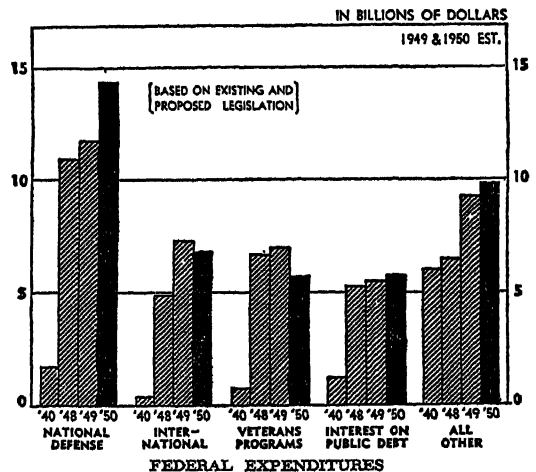
Thus, nominally the budget surplus for 1948 was reduced from \$8,419 million to \$5,419 million, while the estimated expenditures for 1949 were correspondingly decreased. While this transfer made no difference whatsoever, so far as actual expenditures and receipts of the Government were concerned, it provided a means of offsetting part of the loss in tax receipts for the fiscal year 1949 brought about by the reduction in tax rates enacted by the Revenue Act of 1948.

On a cash basis, the Treasury surplus for the 1948 fiscal year amounted to \$9,000 million as compared with \$7,600 million in 1947. The difference between the cash surplus and the budget surplus is primarily a matter of accounting. The former, indicating the actual flow of cash receipts from and payments to the public, include the operations of the various government trust funds, such

as the Federal Old-Age and Survivors Insurance Trust Fund, as well as cash outlays for the redemption of securities previously issued to cover government expenditures. On the other hand, the budget figures include certain intra-governmental transactions and non-cash payments to the public in the form of securities, such as the Armed Forces Leave Bonds. The cash surplus was used primarily to effect a reduction of \$6,000 million in the public debt and to increase the General Fund of the Treasury by \$1,600 million during the fiscal year.

The 1949 Budget Estimates. Based on estimates made available by the President in his budget message of Jan. 10, 1949, budget expenditures for the fiscal year ending June 30, 1949, were scheduled to total \$40,180 million while receipts were to total \$39,580 million, leaving a budget deficit of \$600 million. The estimated outlays were \$6,389 million above the actual expenditures for 1948. On the other hand, estimated receipts were \$2,631 million less, thus wiping out the huge surplus of the previous year.

The principal rise in estimated expenditures for 1949 was in the allotment for international affairs and finance, which showed an increase of \$2,437 million over actual 1948 outlays. The major part of this item was accounted for by the European Recovery Program, which was started in April, 1948, and entailed expenditures of \$4,600 million for the 1949 fiscal year. Included in the total were also large expenditures for providing military supplies to various countries abroad. Foreign relief operations, scheduled at \$1,817 million, were about 9 percent below those of 1948. The principal activities in this group were the Army's program of administration and relief in occupied areas, mainly Germany and Japan.



By far the largest outlays in the 1949 budget were those for national defense, which totaled \$11,745 million as against \$10,924 million the year before. This reflected a substantial increase in procurement of aircraft and in purchase of equipment and strategic and critical materials as well as the cost of the draft. Under the increased budget, the military strength of the Armed Forces was raised from 1,394,000 regulars and reserves on full-time duty on Apr. 1, 1948, to 1,604,000 on Dec. 1, 1948. In addition, on the latter date there were 655,000 reserves in regular training status and 1,950,000 other reserves.

Veterans' services and benefits, estimated at \$6,799 million, were slightly above the figure for the

fiscal year 1948. Of the total, expenditures for education and training took \$2,481 million, the program involving about 2 million veterans. Pensions paid to more than 2,900,000 individuals and families absorbed an estimated \$2,140 million, and hospitals, other services and administration costs, \$1,180 million. Unemployment and self-employment allowances to the amount of \$424 million went to about 400,000 veterans.

Interest on the national debt, estimated at \$5,325 million, increased by 2.6 percent over 1948, tax reductions provided in the 1948 Revenue Act making it impossible to effect any sizable reduction in the public debt. The combined expenditures for national defense, international affairs and finance, veterans' services and benefits, and interest on the public debt amounted to \$31,088 million, or 77 percent of the total budget. Thus, more than three-fourths of the outlays in the 1949 fiscal year represented the cost of past wars and of the existing military establishment. This total does not include expenditures for atomic energy development and a number of other activities related to national defense.

Other items showing substantial increases in the 1949 budget as compared with outlays in 1948 included housing and community facilities, agricultural aid, development of natural resources, and promotion of transportation and communications facilities. Housing and community expenditures of \$349 million included \$222 million for public housing programs. Expenditures for flood control, reclamation and similar projects totaled an estimated \$804 million, a rise of \$319 million, and development and control of atomic energy \$634 million, an increase of \$159 million.

Assistance to agriculture amounted to \$1,805 million, the major part of the increase of \$1,230 million being represented by outlays of \$866 million by the Commodity Credit Corporation for support of farm prices. Development of transport and communication facilities were slated to total \$1,757 million in 1949, a gain of \$490 million. The principal items included in this category were the postal service, highways, navigation aids and facilities, and promotion of aviation and the merchant marine.

Social welfare activities, budgeted at \$1,963 million, were estimated at \$110 million more than in 1948. The major functions in this group were old age and other relief payments, \$1,075 million; outlays of the Railroad Retirement Board, \$569 million; and promotion of public health, \$198 million. General government expenditures, totaling \$1,187 million, showed a decline of \$317 million from 1948. Almost two-thirds of this decrease was due to the tapering off of the surplus property disposal programs, mainly under the War Assets Administration. Outlays for the Bureau of Internal Revenue and other Treasury bureaus made up 30 percent of total general government expenditures.

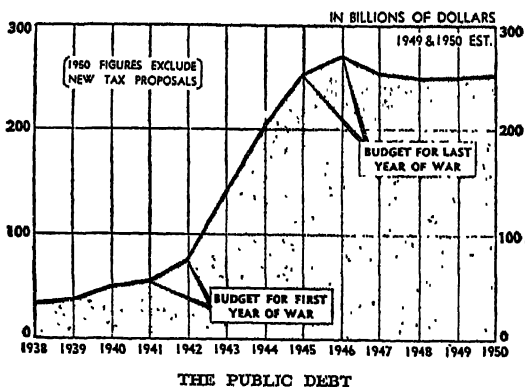
The reduced income tax rates in the Revenue Act of 1948, passed over the President's veto, resulted in a decline in estimated receipts from direct taxes on individuals of \$2,569 million. Because of high business activity and increased profits, revenue from taxes on corporations, however, showed a gain of \$1,535 million. Direct taxes on individuals and corporations constituted 78 percent of all budget receipts while excise taxes, totaling \$7,715 million, accounted for 19 percent of the estimated total.

Actual receipts and expenditures in the fiscal years 1947 and 1948 and the estimated totals for 1949 are shown in Table 1.

TABLE 1—BUDGET RECEIPTS AND EXPENDITURES
[In millions of dollars. Years are fiscal years]

	1947	1948	1949 Estimate
Receipts			
Direct taxes on individuals . . .	\$20,408	\$21,896	\$19,327
Direct taxes on corporations . . .	9,676	10,174	11,709
Excise taxes	7,270	7,402	7,715
Employment taxes	2,039	2,396	2,610
Customs	494	422	407
Miscellaneous receipts	4,621	3,809	2,276
Deduct:			
Appropriation to Federal old-age and survivors' insurance trust fund	1,459	1,616	1,754
Refunds of receipts (excluding interest)	3,006	2,272	2,709
Total Budget receipts . . .	40,043	42,211	39,580
Expenditures by major functions			
International affairs and finance	\$ 6,542	\$ 4,782	\$ 7,219
National defense	14,281	10,924	11,745
Veterans' services and benefits	7,370	6,567	6,799
Social welfare, health, and security	1,300	1,853	1,963
Housing and community facilities	348	82	349
Education and general research	76	75	85
Agriculture and agriculture resources	1,245	575	1,805
Natural resources	616	1,091	1,016
Transportation and communication	587	1,267	1,757
Finance, commerce, and industry	102	88	102
Labor	194	183	184
General government	1,364	1,504	1,187
Interest on public debt	4,958	5,188	5,325
Reserve for contingencies . . . . .	...	...	45
Adjustment to daily Treasury statement basis	305	-388	...
Total expenditures . . .	39,289	33,791	40,180
Excess of receipts	754	8,410	600
Excess of outlays	754	8,410	...

The Public Debt. At the end of the 1947-48 fiscal year the gross public debt amounted to \$252,300 million, a decline of \$5,990 million during the year. Interest-bearing marketable public debt issues were reduced by \$8,356 million during the fiscal



year, mainly by the use of the Treasury surplus. This reduction was offset to some extent, however, by increases in special bond issues sold to government trust funds and investment accounts to a total of \$2,845 million, by a net increase of \$1,926 million in savings bonds outstanding, and net sales of 2½ percent investment Treasury bonds totaling \$959 million. Redemption of Treasury notes in excess of sales were \$1,159 million, due primarily to the use of the notes for payment of taxes. Net

retirement of armed forces leave bonds totaled \$1,229 million and repayment of the special non-interest-bearing notes held by the International Bank and the International Monetary Fund accounted for \$913 million.

The composition of the outstanding public debt at the end of the 1947 and the 1948 fiscal years is shown in Table 2.

TABLE 2—PUBLIC DEBT OUTSTANDING

(In millions of dollars)

Issues	June 30, 1947	June 30, 1948
Public issues (interest-bearing):		
Marketable obligations:		
Treasury bills	\$ 15,775	\$ 13,757
Certificates of indebtedness	25,206	22,588
Treasury notes	8,142	11,375
Treasury bonds	119,323	112,462
Postal savings and other bonds	106	104
Total marketable obligations	168,702	160,346
Nonmarketable obligations:		
Armed forces leave bonds	1,793	563
Treasury savings notes	5,560	4,394
United States savings bonds	51,367	53,274
Treasury bonds, investment series		959
Depository bonds	325	316
Total nonmarketable obligations	59,045	59,506
Total public issues	227,747	219,852
Special issues to Government trust funds and agencies	27,360	30,211
Matured debt on which interest has ceased	231	280
Debt bearing no interest:		
International Bank and Monetary Fund	2,140	1,227
Other	802	722
Total gross public debt	258,280	252,292
Guaranteed debt		
Not owned by the Treasury	90	73
Total public and guaranteed debt	258,370	252,366
General fund balance	3,308	4,932
Total debt less general fund balance	255,068	247,434

As a result of reduced receipts and increased expenditures, during the second half of the calendar year 1948 the budget surplus was cut to \$125 million as against a surplus of \$1,659 million in the corresponding period of the previous year. Sales of special issues to government trust funds exceeded the reduction in the public issues outstanding. As a result, the gross public debt was increased by \$507 million and on Dec. 31, 1948 totaled \$252,780 million.

The average rate paid on the interest-bearing public debt outstanding June 30, 1948, was 2.182 percent as against 2.107 percent the year before. The rise was due mainly to the increase in the short-term rates on bills and certificates and the continued issue of non-marketable and special issues at higher than average rates.

As of the end of September 1948, individuals held about 27 percent of the public debt, commercial banks 25 percent, U.S. Government agencies and trust funds almost 15 percent, the Federal Reserve Banks 9 percent, insurance companies a little under 9 percent, and other corporations and associations 8 percent. The remainder was owned by mutual savings banks and State and local governments. The reduction in the debt from a year before was accounted for mainly by retirement of obligations held by banks.

Changes in ownership of the U.S. direct and guaranteed debt are shown in Table 3.

TABLE 3—ESTIMATED OWNERSHIP OF INTEREST-BEARING SECURITIES ISSUED OR GUARANTEED BY THE U.S. GOVERNMENT

(In millions of dollars)

Held by	Aug. 31, 1947	Sept. 30, 1948
Commercial banks	\$ 69,700	\$ 62,500
Federal Reserve Banks	22,200	23,400
Individuals	65,800	67,500
Insurance companies	24,900	22,300
Mutual savings banks	12,200	11,700
Other corporations and associations	21,800	21,100
State and local governments	6,400	7,300
U.S. Government agencies and trust funds	33,700	36,800
Total	\$257,200	\$252,700

In 1948, sales of Series E savings bonds, issued in denominations of up to \$1,000, totaled \$4,224 million, a gain of 3 percent over 1947 and the record amount ever sold in any peacetime year. Sales exceeded redemptions by \$494 million as against \$155 million in 1947. The improvement was due mainly to the larger volume of individual savings in 1948 and the drive launched May 15 to sell more savings bonds as an anti-inflationary measure. A feature of this campaign was the effort to promote more sales through payroll deductions. The amount of E bonds in the hands of the public at the end of the year reached the new high level of \$32,188 million.

The policy of supporting prices of Federal obligations in order to maintain the stability of the government bond market was continued in 1948 through the cooperation of the Treasury and the Federal Reserve System. The objective of this policy, which kept the price of long-term government bonds at a level yielding a return of 2½ percent, was to keep prices from fluctuating too rapidly either up or down. It was felt that a decline in prices might shake the confidence of many investors and perhaps lead to wholesale liquidations, particularly by holders of the \$55,000 million of savings bonds outstanding. Moreover, the higher interest rate would increase the cost to the government of servicing the public debt. Finally, the possible drastic deflationary effects of such a policy were feared. In carrying out the price-support program the Federal Reserve Banks bought large amounts of long-term government bonds from investors at a pegged price. Because of simultaneous redemption of short-term obligations, however, there was only a relatively small increase in the holdings of government obligations of the Federal Reserve System.

—SAMUEL S. SHIPMAN

PUBLIC HEALTH SERVICE, U.S. The Public Health Service celebrated its 150th anniversary in 1948, commemorating the establishment in 1798 of the United States Marine Hospital Service. Originally created to provide medical and hospital care for American Merchant Seamen, the Public Health Service now conducts many broad programs for the protection and improvement of national health. These include: research in medical and related sciences; foreign and interstate quarantine; control of biologic products sold in interstate commerce; financial and technical assistance to the States for the expansion of public health programs and the control of widespread diseases.

In 1948, activities of the Public Health Service were expanded by Congress, through laws establishing new programs and through increased appropriations. Programs for the control of cancer and cardiovascular diseases were added and two new research institutes, on heart diseases and dental research, were created. A program for the control

of water pollution also was established. Appropriations to the Public Health Service for the fiscal year 1948 totaled \$126,691,697; in addition, Congress authorized contractual obligations for subsequent years, which totaled about \$74 million. Appropriations for 1947 totaled \$104 million. Grants-in-aid to State agencies for public health activities and to scientific institutions and individual scientists for research absorbed the major part of the increases in appropriations and contract authorizations.

The health status of the nation, as measured by death rates and the incidence of communicable diseases in 1947, remained at about the same level as in former years. The general death rate for 1947 was 10.1 per 1,000 population, excluding the armed forces overseas. Poliomyelitis and measles were epidemic during 1947-48, but cases of other communicable diseases were at or below expected numbers.

National Institutes of Health. The National Institutes of Health comprise the National Cancer Institute, Experimental Biology and Medicine Institute, National Heart Institute, National Institute of Dental Research, and Microbiological Institute. The last three of these were established in 1948. Appropriations to the National Institutes of Health for the fiscal year 1948 amounted to \$24 million, compared with less than \$8 million in 1947. Of this sum, \$14 million was appropriated for the combined program of cancer research, professional training, and control. The Public Health Service was also authorized to make grants to scientific and educational institutions for "drawing plans, erection of buildings and acquisition of land therefor for cancer research and training projects."

Congress also authorized the construction of a 600-bed clinical and laboratory research center in connection with the Institutes. The center will be completed in 1950 and will provide laboratory and clinical facilities for an integrated program of basic and applied research on physical and mental diseases.

During the past year, a number of notable achievements were credited to scientists of the National Institutes of Health. One causative agent of the common cold was isolated. In a cooperative study with university and public health authorities, Q fever was found to be endemic in Southern California. Organisms identified as *Coxiella burnetii*, the cause of Q fever, were recovered from raw milk. A vaccine for the prevention of mumps was developed and tested clinically; it provides temporary protection for male adults exposed to mumps.

New drugs and antibiotics were developed and tested for their value in the treatment of tuberculosis. In nutrition studies, addition of niacin to the diet of experimental animals resulted in the correction of abnormal conditions of the blood and resumption of growth; these results may have a bearing on the treatment of clinical anemia.

A 6-year study at a training school for boys was completed, showing that ultraviolet radiation in dormitories failed to affect the incidence of airborne diseases.

Radioactive penicillin was produced by the use of radioactive sulfur in the media on which the *Penicillium notatum* fungus grew. By means of radioactive penicillin, it should be possible to obtain more information on how penicillin destroys bacteria.

New knowledge of the internal structure of the molecule was gained from electron microscope pictures, obtained by technics developed at the National Institutes of Health.

Fifty new chemotherapeutic agents that produce

destructive effects on tumors in mice were discovered in the systematic testing of many newly synthesized chemical compounds. Improvements in technic were made, which afforded larger cultures of cancer cells than ever grown before in test tubes. Recent studies also demonstrated that sex hormones do not influence tissue growth when certain vitamins are lacking and that anti-vitamin compounds are potential neutralizers of the harmful effects of hormones in cancer of the breast and prostate.

The National Advisory Health Council, the National Advisory Cancer Council, and the National Advisory Mental Health Council, whose members are leading authorities in these fields, recommended 986 research grants amounting to \$12 million for non-Federal institutions and scientists. Research fellowships were awarded to 133 men and women.

Hospital Construction. At the close of the second year of the Hospital Survey and Construction Act (1946), all States and Territories (except Nevada) had submitted and received approval of long-range State plans. More than 350 individual projects had been approved. Congress authorized the Public Health Service to assume obligations up to \$75 million in 1948. This 5-year program is aimed at building more than 1,250 million dollars' worth of health facilities by 1952.

Industrial Hygiene. The Public Health Service continued its cooperative programs with the 58 State and local industrial hygiene units through various types of assistance. An investigation of sodium fluoride as a health hazard in the manufacture of rimmed steel was made at the request of the United Steelworkers of America, CIO, and the Republic Steel Corporation. Sodium fluoride was exonerated but other irritating factors were discovered in the course of the survey and recommendations made for their control. A major study of health hazards in 24 foundries was completed.

The Public Health Service continued its systematic collection and classification of information on poisons and their control, and consultation on chemical problems increased. Laboratory facilities were planned for the analysis of radioactive materials. A mobile dental unit was used in extensive studies of the relation of industrial hazards to oral diseases. Industry-wide conferences were held on the incidence of cancer in the chromate industry and on health hazards associated with the use of beryllium.

Tuberculosis Control. The death rate from tuberculosis reached an all-time low in 1947: 33 per 100,000 population as compared with 36.4 in 1946, and 46 in 1940. The nationwide program launched in 1944 has contributed to this encouraging trend. The Public Health Service continued its cooperative activities in this field with State and local health authorities and voluntary agencies. Five major objectives are sought: (1) prevention, (2) case finding, (3) isolation and medical care, (4) rehabilitation and after-care, and (5) economic and social protection for families of the tuberculous. The Service concentrated its activities upon aid to States, research, and training of professional and technical personnel. During the year, over one million X-rays were taken by Public Health Service X-ray equipment, of which 662,764 were taken by Service staff in community-wide X-ray surveys in Minneapolis and St. Paul, Oak Ridge, Tenn., and Washington, D.C.

Studies of the effectiveness of BCG vaccine in preventing tuberculosis now include approximately 9,000 persons. A long-range investigation of early tuberculous lesions among student nurses con-

tinued; more than 24,000 nurses are participating. The search went on for an effective and universally applicable antibiotic agent. A coordinated, cooperative program was undertaken to evaluate the effectiveness of streptomycin in tuberculosis therapy. Two new cooperative laboratories were established to explore the chemotherapy of tuberculosis and to expand medical mycological research. Extensive studies were undertaken in epidemiology, clinical problems, and the post-sanatorium follow-up of tuberculous patients. In radiology, research projects conducted by Public Health Service scientists resulted in the development of new X-ray materials and equipment which will improve radiological techniques materially.

Venereal Disease Control. Major activities in venereal disease control included the rapid treatment center program, community-wide public education and case finding projects, research, and evaluation studies. During the fiscal year 1948, 3,000 clinics made over 2 million diagnostic examinations, finding about 431,000 cases of venereal disease. These cases included about 44,000 cases of primary and secondary syphilis, 53,000 cases of early latent syphilis, and about 273,000 cases of gonorrhea. About 65 percent of the syphilis cases were referred to rapid treatment centers for in-patient penicillin treatment, while 97 percent of the gonorrhea cases were treated with penicillin in the clinics. Rapid treatment centers were maintained in 41 States, the District of Columbia, Alaska, and the Virgin Islands.

State and local health departments continued to emphasize case-finding and contact investigation as fundamental parts of their control program. Health departments reported that about 640,000 epidemiologic investigations were made during the year, from which more than 150,000 previously untreated cases of venereal disease were brought to treatment.

Communicable Disease Control. The CDC at Atlanta, Ga., conducted a program of malaria control in 13 States, Puerto Rico, and the Virgin Islands. Typhus control work continued in endemic areas of southern and southwestern parts of the country.

The Center trained more than 300 laboratory directors and technicians in various diagnostic techniques, such as the recovery of viruses of neutrotropic disease, serological diagnosis of virus and rickettsial diseases, detection of amebic dysentery, and sputum-culture diagnosis of tuberculosis. The Center also provided extensive services to State and local health agencies in the investigation and control of diarrheal diseases, poliomyelitis, plague, dengue fever, encephalitis, rabies, and other communicable diseases. Nine field training stations are operated to give instruction and field practice to State and local health personnel in the use of new control methods.

Demonstrations. Demonstrations conducted during the year served the multiple purposes of investigation, application of new concepts in public health practice, exploration and perfection of specific control methods, demonstration of new techniques to State and local health workers, and training of personnel in newly developed fields. Demonstrations continued in nutritional services, heart disease and diabetes control, and dental health.

Congress appropriated \$1 million for a demonstration in each State of the topical application of sodium fluoride to children's teeth, as a means of preventing dental caries. Demonstration teams include one dentist, two dental hygienists and a records clerk. They travel in trailers, using portable equipment to demonstrate the technic to dentists

and dental hygienists. A 10-year study of the effects of adding fluorine to community water supplies was continued. Communities and health departments were shown the technics of nutrition surveys, and health department personnel were given in-service training in nutrition. Four demonstration field units were assigned to State health departments in various parts of the country. In addition, the Public Health Service participated in a cooperative nutrition project with the California State Health Department, the U.S. Department of Agriculture, and the College of Agriculture of the University of California.

Demonstrations in heart disease and diabetes control concentrated on the development of effective methods of detecting these conditions in large groups of supposedly healthy people. The electrokymograph, adapted to the detection of heart disease several years ago by Doctor Bert Boone of the Public Health Service, is now in use in a number of institutions. Field studies to evaluate its effectiveness continued. New techniques were developed for mass use, whereby blood samples can be tested for sugar content, as a means of detecting diabetes.

Cancer control activities, begun during the fiscal year 1948, included: public health nursing and cancer education for nurses; cancer teaching in medical and dental schools; surveys to evaluate cancer control methods; and general cancer education. The Public Health Service allotted funds to State agencies and to professional schools for these purposes.

Mental Health. In the fiscal year 1948, Federal funds were available for the first time for a nationwide attack upon the growing problems of mental illness. With an appropriation of about \$4.5 million, the Public Health Service was able to carry the program authorized by the National Mental Health Act of 1946 from the planning stage into the realm of positive action.

The program concentrated on meeting three major areas of need: research in mental and nervous diseases; training of psychiatrists, psychologists, psychiatric social workers, and nurses; and strengthening of State and community mental health services. To stimulate additional research, grants totaling \$373,665 were made to 38 non-Federal institutions and individual investigators. Twenty fellowships totaling \$64,122 were awarded to scientists. Applications for the support of professional education were received from 173 training centers and totaled \$5 million. On the basis of funds authorized, it was possible to pay a total of \$1.2 million for 62 training grants and stipends. Grants-in-aid totaling about \$2 million were made to 46 States and Territories, 24 of which had no preventive mental health program prior to July, 1947.

Foreign Quarantine. Despite the rising incidence of smallpox, cholera, and other communicable diseases abroad, no cases of the "quarantinable diseases" (smallpox, cholera, typhus, plague, yellow fever, anthrax, psittacosis) were introduced into this country during the fiscal year 1948.

The Public Health Service established a stricter requirement of smallpox immunization for persons arriving from abroad. Persons entering the United States must give definite proof of having been vaccinated during the preceding 12 months, or submit to vaccination on entering. The procedure for radio pratique, or advance quarantine clearance, was extended to qualifying fishing vessels arriving at Los Angeles. Sodium Fluoracetate ("1080") and DDT continued to compare favorably with hydrocyanic acid gas fumigation of ships as means of rodent

control. Approximately 30,000 arriving aircraft were inspected to prevent introduction of disease-transmitting insects.

Marine Hospitals. The Public Health Service operates 24 hospitals (called Marine Hospitals because they were established originally to care for seamen only) and 120 out-patient clinics and offices for the care of its beneficiaries. Beneficiaries include American merchant seamen, Coast Guard personnel, civil service employees injured on the job, Coast and Geodetic Survey officers and crew members, and other groups for whom the Federal Government is responsible.

The Marine Hospitals include 21 general hospitals, 2 tuberculosis sanatoria, and a hospital at Carville, Louisiana, for the treatment of persons with leprosy. The hospitals are located, for the most part, at major American seaports, on the shores of the Great Lakes, and along the principal rivers.

Clinical research projects conducted in the hospitals during 1948 included: electrokymography in the diagnosis of heart disease, the use of streptomycin in the treatment of tuberculosis, and the role of sulfone drugs in the treatment of leprosy. Most of these projects are conducted in cooperation with other research units of the Public Health Service. The Council on Medical Education and Hospitals of the American Medical Association has approved 11 of the Marine Hospitals for internships, and 10 for training of residents. Several are affiliated with medical schools. Intern training programs are also available for dietitians and hospital administrative personnel.

During the fiscal year 1948, the Marine Hospitals reported nearly 80,000 admissions. The average daily in-patient census was 5,700, and bed occupancy 85 percent of standard capacity.

Environmental Health and Water Pollution Control. The Water Pollution Control Act, approved June 30, 1948, provided for joint action by the Federal Security Agency and the Federal Works Agency to conserve the water resources of the nation by controlling pollution of watercourses. Specifically, the Act directed the Public Health Service to administer a program of grants-in-aid to the States for research and surveys on the control of industrial wastes. These provisions greatly expand the work of the Public Health Service in this field. The law authorized the appropriation of \$22.5 million annually for each of the next five fiscal years, to be used as loans to States, municipalities, and interstate agencies for the construction of sewage treatment works. Loans are dependent upon approval by the Public Health Service of the proposed construction. A new laboratory at Cincinnati, Ohio, was authorized. The Public Health Service completed its plans for 14 river basin stations throughout the United States to be the focal points for all interstate activities in connection with water pollution control.

Important new public health engineering activities were begun. They include intensive study of the disposal of radioactive and industrial wastes and study of housing standards in relation to health and safety. An agreement was reached between the Public Health Service and the Canadian Department of National Health and Welfare which facilitates the exchange of information on shellfish sanitation between Canada and the United States. One result of this agreement is the inclusion of the names of Canadian shippers on routine releases and the joint endorsement of control measures by the two participating health agencies.

Action was initiated to revise the Interstate Quar-

antine Regulations as they relate to the interstate shipment of lather brushes for the control of anthrax. Supervision of the policies and technical phases of the milk and food sanitation program was continued. Sources of water used on trains and airplanes were inspected to determine compliance with the Drinking Water Standards prescribed in the regulations.

The Environmental Health Center at Cincinnati, Ohio, conducted numerous cooperative investigations. Pollution of international boundary waters between the United States and Canada was under study throughout the year. A study of septic tank systems for home sewage disposal was launched. In addition, the Center cooperated in a stream pollution survey of the Kansas River Basin and a study of bathing beaches in the Chicago area. A mobile laboratory and personnel were sent to Florida on an investigation of the public health aspects of water hyacinth control with 2,4-D. Consultative services were provided to the Atomic Energy Commission by staff members in connection with liquid waste disposal problems.

World Health Relations. Among the international meetings in which the Public Health Service participated were the First World Health Assembly, the Directing Council and Executive Board of the Pan-American Sanitary Organization, and the Finance and Transfer Commission of the Office International d'Hygiene Publique. In addition, the Service arranged for appropriate representation at international congresses on cytology, microbiology, ophthalmology, leprosy, venereal diseases, tropical medicine and malaria, and BCG vaccine.

The Public Health Service administered training programs for public health students from Latin America, the Philippines, and Greece, and assisted in placing fellows of the World Health Organization and of private organizations and foreign countries in schools, hospitals, institutions, and laboratories throughout the United States. The Public Health Mission to Liberia, the American Mission for Aid to Greece, and the health program of the Philippine Republic were serviced by officers of the Public Health Service, assigned to these organizations.

The Nation's Health. A few local outbreaks of influenza were reported in 1948, but the incidence was below that for the two preceding seasons, and the small excess of deaths in the major cities of the United States indicated the clinical mildness of the disease. The outbreaks were generally characterized by gastro-intestinal symptoms. Where identified, it was due to type "A" influenza virus. The periodic epidemic cycle for measles occurred during 1947-48, and a total of 586,282 cases was reported during the measles season as compared with 208,389 in 1947 and 577,159 in 1946 for the corresponding periods.

Poliomyelitis was epidemic in 1948 for the sixth consecutive year, with 21,515 cases through the week ended Oct. 16, 1948, as compared with 20,686 for the same period in 1946. Although the death rate from poliomyelitis has increased since 1942, the increase has not been so great as the increase in incidence. This disparity indicates that a large proportion of mild, non-paralytic cases are being reported.

Other reportable diseases are approximately at or below the median expectancies. Only 53 cases of smallpox were reported up to the week ended Oct. 16, 1948, as compared with 151 for the same period last year, the previous low for the period.

Since June, 1946, the Public Health Service has been the chief Federal agency responsible for the

collection and publication of national vital statistics, including data on births, stillbirths, deaths and causes of death, marriages, and divorces.

In 1947 the birth rate was 25.8 per 1,000 population including the armed forces overseas, the highest reported since the birth registration area was established in 1915. The crude death rate from all causes for 1947 was 10.1 per 1,000 population, excluding armed forces overseas. This was the second lowest rate ever reported for the United States; the lowest was 10.0 in 1946.

The 1947 marriage rate was 12.9 per 1,000 population excluding armed forces, and the divorce rate was 3.3 per 1,000 population including armed forces overseas. During the 80 years (1867-1947) for which estimates are available, this marriage rate has been exceeded only once, in 1946. The divorce rate was exceeded only twice previously, in 1945 and 1946.

PUBLIC ROADS ADMINISTRATION (PRA). The highway program in the United States gained momentum in 1948, despite continued shortages of materials, labor and engineering personnel. Contract awards by State highway departments for all classes of road work, including Federal-aid and non-Federal projects, passed the \$1,000 million mark for the first time in history.

The total construction cost of all highway jobs placed under contract during the year by State agencies was approximately \$1,150 million. Of this amount, an estimated \$746 million was for improvements on routes in the Federal-aid systems. Approximately \$15 million of Federal work in parks and forests is also included. These figures do not include cost of right-of-way, engineering costs, and contingencies. The improvements involved work on about 40,000 miles of road.

An important event of the year was passage by Congress of the Federal-aid Highway Act of 1948, authorizing an appropriation of \$450 million for each of the fiscal years 1950 and 1951, to assist the States in developing Federal-aid primary and secondary roads.

Passage of the 1948 act makes it possible for the States to continue the postwar Federal-aid highway program authorized by the Federal-aid Highway Act of 1944, which authorized an appropriation of \$500 million for each of the first three postwar fiscal years for Federal-aid projects. At the end of 1948 nearly all funds available under provisions of the act had been assigned to specific projects.

In 1948 considerable progress was made in the improvement of National Interstate highways and Federal-aid secondary roads. Development of urban expressways to relieve traffic congestion in large cities also was well advanced at the end of the year. Commissioner in 1948: Thomas H. MacDonald.

PUERTO RICO. A West Indian island, forming a Territory of the United States; acquired from Spain through the Treaty of Paris, 1898. The adjacent islands of Vieques, Mona, and Culebra are included in its jurisdiction. The area of Puerto Rico is approximately 3,423 square miles.

Population. As of July 1, 1948, the population was estimated at 2,146,686, or over 640 persons per square mile, making the territory one of the most densely populated agricultural countries in the world. Chief cities: San Juan (capital), 230,235 inhabitants; Ponce, 119,097; Mayaguez, 90,000. Seventy-six percent of the people are native-born whites and the remaining 24 percent are for

the most part Negroes and Mulattoes. The birth rate increased in 1947 to 49.5 live births per 1,000 population as compared with 42.7 in the previous year. The death rate fell from 14.1 per 1,000 population in 1945 to 12.0 in 1947.

Education. School enrollment in 1947 was 460,000—an increase of 110,085 over the previous year. The University of Puerto Rico, located at Río Piedras, 10 miles from San Juan, had in the academic year of 1947-48 a daytime registration totaling 8,000 students. Enrollment in all the colleges, including evening extension, totaled 10,651. Illiteracy has been reduced in Puerto Rico to 29 percent.

Production. The island is predominantly agricultural, with about 825,000 acres under cultivation out of a total area of some 2 million acres. In 1945-46, agriculture produced 26 percent of the island's net income, the most important crops being sugar, tobacco, coffee, and starchy vegetables. In 1948, a total of 1,108,260 tons of sugar was produced. The Sugar Act of 1948 sets the quota for shipment of sugar to the continental United States at 910,000 tons.

Manufacturing has increased in importance. In 1939-40, manufacturing net income was only 37 percent as large as that of agriculture as compared with 50 percent for 1945-46. Sugar and tobacco processing, rum, and needlework are among the established industries. The local Government, mainly through the Puerto Rico Industrial Development Company and the Puerto Rico Development Bank, is making an effort to industrialize the island. The Development Company is already operating subsidiary corporations for the production of cement, glass containers, paper, clay products, and shoes. Total sales of the Company and its subsidiaries during 1946-47 were \$4,296,426 as compared to \$3,550,911 for the previous year. New industries are tax-exempted by law.

Trade. Exports during 1947 totaled \$191.3 million or in value 129 percent higher than in 1940. Imports were calculated for the same period at \$308.6 million or 197 percent above the 1940 value. Exports from sugar alone added up to \$124.4 million. Textiles followed with \$25.7 million.

Finance. Revenues from the general fund and other funds of the Insular Government totaled \$132,494,893 for 1946-47 as compared with \$125,113,230 for 1945-46. While revenues from the shipment of rum to the mainland declined, inflation of income has brought about a substantial increase from Insular income taxes.

Government. Under the Organic Act that was passed by the U.S. Congress in 1917 and later amended, Puerto Rico has the status of an organized territory of the United States. Its citizens are U.S. citizens. A new law, providing for an elective governor in 1948, was signed by President Truman on Aug. 5, 1947. Luis Muñoz Marín, president of the Popular Democratic Party, was elected governor of Puerto Rico on November 2.

The legislative power is vested in a Legislature of two houses which is elected by popular vote for a 4-year term. In addition there is a Resident Commissioner to the United States who is elected by the popular vote for a 4-year term. Dr. Antonio Fernós Isern is the present Resident Commissioner.

Events, 1948. The year was marked by intense political activity as a preliminary to the election of the first native governor. Relations were friendly between the local and the federal administrations. The industrialization program went rapidly ahead, and there was an upward swing in the economy, although inflation continued. On February 21,

President Truman visited the island and was enthusiastically received. In an address, he praised the government's program of industrial and agricultural development and added: "Too often we have had our attention directed to Puerto Rico's problems. We have heard too little of your achievements. In less than half a century you have raised your wages and standard of living, have developed universal free schooling, highways, hospitals, utilities, and all the other institutions of modern society. I have said to the Congress several times and I repeat it here—that the Puerto Rican people should have the right to determine for themselves Puerto Rico's political relationship to the Continental United States."

On April 20, Representative Fred L. Crawford of Michigan urged the House to lift quantitative restrictions on trade between the island and the United States. Crawford argued against the statutes which prevent Puerto Rico from refining more than about 15 percent of its own sugar and urged that the island's sugar cane industry get the same treatment as the beet sugar industry in the Western states. A bill to do away with present restrictions was introduced by the Puerto Rican Resident Commissioner.

A strike at the University of Puerto Rico on April 14, headed by a small group of students, received widespread publicity in the United States. Classes were suspended on April 15 and reopened on May 3. The rebellious students tried on several occasions to interrupt activities within the campus and in the graded and secondary schools. The University authorities suspended classes indefinitely, but examinations were held with an attendance of more than 90 percent. The strikers tried again to interrupt classes in September, but failed to have the support of the student body.

The local elections were contested by 3 political groups. The Popular Democratic Party favored increased industrialization, a better distribution of the insular wealth, and a territorial constitution until the island's economy would permit choosing between statehood and independence. The Puerto Rican Independentist Party advocated complete independence after a transition period. A coalition of Republicans, Socialists and Reformists favored statehood and a revision of the social legislation and other measures of the party in power. Luis Muñoz Marín, leader of the Popular Democratic Party, was elected governor by a landslide in a peaceful and orderly election. Resident Commissioner Fernós was returned to Washington.

—ARTURO MORALES-CARRIÓN

PULITZER PRIZES. The annual awards in journalism and in letters, established under the terms of the will of the late Joseph Pulitzer, publisher of the *New York World*, are awarded by the trustees of Columbia University on recommendation of the Advisory Board of the School of Journalism (Graduate) at Columbia University. Awards made on May 3, 1948, which are for work done in the preceding year, 1947, are listed below.

Journalism. Public Service—\$500 gold medal: *The St. Louis Post-Dispatch*, for its coverage of the Centralia, Ill., mine disaster on Mar. 25, 1947, and the succeeding stories which "resulted in impressive reforms in mine-safety laws and regulations."

Reporting—\$500: (*Local*)—George E. Goodwin of *The Atlanta Journal*, for his history of the Telfair County, Ga., vote fraud during the election of Nov. 5, 1946. (*National*)—Two awards: Bert Andrews, of the *New York Herald Tribune's* Washington Bureau, for his story of the summary dismissal of one

State Department employee on the basis of a disloyalty accusation; and Nat S. Finney, of *The Minneapolis Tribune's* Washington Bureau, for his articles concerning government proposals to form a type of censorship on government acts and utterances in peacetime. (*International*)—Paul W. Ward of *The Baltimore Sun*, for his series of articles on "Life in the Soviet Union."

Editorial Writing—\$500: Virginius Dabney, editor of *The Richmond Times-Dispatch*.

Cartoon—\$500: Reuben L. (Rube) Goldberg of *The New York Sun*, for his cartoon entitled "Peace Today."

Newspaper Photography—\$500: Frank Cushing of *The Boston Traveler*, for his picture of a boy gunman using another small boy as a shield.

Letters. Novel—\$500: James A. Michener, for *Tales of the South Pacific* (in the form of a collection of short stories).

Drama—\$500: Tennessee Williams, for *A Streetcar Named Desire*.

History—\$500: Bernard De Voto, for *Across the Wide Missouri*.

Biography—\$500: Margaret Clapp, for her *Forgotten First Citizen: John Bigelow*.

Poetry—\$500: W. H. Auden, for his long poem *The Age of Anxiety*.

Music—\$500: Walter Piston, for his *Symphony No. 3*.

Special Award—\$1,500 scholarship: Philip Anthony Moose of New York City.

QATAR. An Arabian sheikdom occupying a peninsula in the Persian Gulf. Area, 8,500 square miles. Population: estimated at 25,000. Capital, El Beda. Relations with Great Britain are regulated by the Treaty of Nov. 3, 1916. Sheik, Abdullah ibn Jasim al Thani. In 1947 Petroleum Development Ltd., a subsidiary of the Iraq Petroleum Company, engaged in searches for oil deposits on the Qatar Peninsula.

QUEBEC. A province in eastern Canada. Area 594,860 square miles (523,860 sq. mi. land area and 71,000 sq. mi. water). Population (census, 1941) 3,331,882; 3,792,000 (1948 est.). According to principal religious denominations in 1941, 2,894,621 were Roman Catholics; 162,056 Anglicans; 100,196 United Church; 56,086 Presbyterian; 65,683 Jewish. In 1946 there were 111,285 live births; 83,690 deaths; 36,650 marriages. Education (1945-46): 712,249 students enrolled in schools and colleges. Chief cities: Quebec (capital) 150,757 inhabitants in 1941; Montreal 903,007; Verdun 67,349; Three Rivers 42,007; Sherbrooke 35,965; Hull 32,947; Outremont 30,751; Westmount 26,047; Shawinigan Falls 20,325; Lachine 20,051.

Production. The gross value of agricultural production in 1947 was \$344,377,000. In 1947 there were 6,390,000 acres in field crops valued at \$162,410,000. Chief field crops (1947): oats 26,639,000 bu. (\$22,643,000), mixed grains 5,568,000 bu. (\$5,457,000), barley 2,885,000 bu. (\$3,231,000), buckwheat 1,523,000 bu. (\$1,919,000), potatoes 10,558,000 cwt. (\$26,078,000), field roots 3,453,000 cwt. (\$3,798,000), hay and clover 5,935,000 tons (\$92,171,000), fodder corn 713,000 tons (\$5,276,000). Livestock (June 1, 1947): 2,033,500 cattle including 1,120,300 milk cows (\$166,078,000), 316,600 horses (\$41,442,000), 1,061,200 swine (\$27,428,000), 571,700 sheep (\$6,634,000), 14,004,300 poultry (\$19,482,000).

The number of fur farms in 1946 was 1,768 with fur animals valued at \$2,595,564. Value of

fur pelt production in 1946-47 was \$3,913,915. Total marketed value of fish in 1946 was \$7,927,022. Cod was the main fishery followed by lobsters, herring, mackerel, and salmon. A total of 97,527,000 lb. of creamery butter was produced in 1947 valued at \$52,665,000; factory cheese was 24,812,000 lb. valued at \$7,851,000; estimated total farm value of poultry meat and eggs was \$37,783,000.

Maple syrup produced in 1947 was 2,831,000 gal. valued at \$9,852,000; honey, 5,399,000 lb., valued at \$1,458,000; fruit amounted to \$3,548,000. The 1948 tobacco crop was estimated at 11,148,000 lb. There were 1,989 sawmills in operation in 1946 and the value of lumber sawn was \$55,249,378; gross value of products in the pulp and paper industry (1947) was \$346,119,699; newsprint production (1947) was 2,596,604 tons.

Quebec is the second largest manufacturing province in Canada. Manufacturing establishments numbered 10,818 in 1946. They furnished employment to 357,276 persons who received \$565,986,105 in salaries and wages. The gross value of products was \$2,497,971,521 from materials costing \$1,297,009,099. The production of pulp and paper occupied first position. Other leading industries, in the order named, were: clothing, non-ferrous metal smelting and refining, railway rolling stock, cotton yarn and cloth, slaughtering and meatpacking, tobacco, cigars and cigarettes.

Government. Finance (year ended Mar. 31, 1947): revenue \$147,434,000; ordinary expenditure \$82,057,350; total direct and indirect liabilities (less sinking funds) \$412,811,099. The executive authority is vested in a lieutenant governor who is advised by a ministry of the legislature. There are 24 members (appointed for life) in the Legislative Council, and 92 members (elected by male and female suffrage) in the Legislative Assembly (82 Union Nationale, 8 Liberals, and 2 Independent were elected at the provincial general election of July 28, 1948). Twenty-four members (appointed for life) in the Senate and 65 elected members in the House of Commons represent Quebec province in the Dominion Parliament at Ottawa. Lieutenant Governor, Maj. Gen. Sir Eugène Fiset (app. Dec. 30, 1939). Premier, Maurice L. Duplessis (Union Nationale), elected Aug. 8, 1944, (reelected July 28, 1948). See CANADA.

RADIO BROADCASTING. See the article on U.S. RADIO BROADCASTING.

RAILROAD RETIREMENT BOARD. An independent executive agency of the U.S. Government which administers the Railroad Retirement and Railroad Unemployment Insurance Acts, laws which provide retirement, survivor, and unemployment benefits for railroad employees. Chairman: William J. Kennedy.

During the fiscal year which ended June 30, 1948, \$283,900,000 was paid to over 700,000 railroad employees and their families, of which \$187,800,000 went to 237,000 retired employees; \$37,100,000 to 139,000 survivors of railroad employees; \$32,400,000 to 210,000 railroad workers who were unemployed because of lack of work; and \$26,600,000 to 150,000 railroad workers who were unemployed because of sickness or injury.

Major legislation enacted by Congress on June 23, 1948, increased retirement benefits by 20 percent, and guaranteed each railroad worker that if the total of all benefits paid to him and his survivors would be less than the amount he had paid in retirement taxes, plus an allowance for interest,

the difference would be paid to some one designated by the worker, or to one or more of his survivors, or to his estate, as provided in the Act.

RAILWAYS. The immediate necessity of taking up deferred maintenance was the dominant factor in operation of the railways of the United States in 1948. Increased cost of materials and increased wage payments made it difficult to operate at a profit. Truck and inland waterway competition made it difficult to increase or even retain the level of gross revenues.

That cars, locomotives, and track were brought up to a fairly good condition is attested to by the fact that there was not an unusual number of accidents due to defective equipment or track. There were, however, accidents due to human failures.

It is doubtful whether any large part of deferred repairs to cars, locomotives, and track has been made good. Neither the materials nor the labor has been available at any price. American ingenuity in "make do" is the more likely explanation of the railway accident record in 1948.

Changes in types of locomotives and cars that took place during the 10 years 1938-1948 were of great importance both to the financial results in 1948 and to the problems presented to railway managements in that year. A shop and its personnel fitted to repair 8-wheel steam locomotives may have to be somewhat enlarged to repair a mountain-type locomotive with 73-inch driving wheels but it does not have to be fundamentally changed. A shop fitted to repair 30-ton wooden boxcars can readily be adapted to repair 50-ton wooden boxcars. But a shop fitted to repair steam locomotives cannot be used to service Diesel locomotives, and neither can a shop suitable for repairs of wooden cars be adapted to repair steel cars.

Freight Rates. In an effort to secure more revenue to meet increased expenses, the railways applied to the Interstate Commerce Commission for permission to raise freight rates generally by 13 percent. In connection with this application the Pennsylvania Railroad submitted proof that it was costing 85.19 percent more to operate their property in 1948 than it cost in 1940, while revenues were only 47.20 percent greater in 1948 than they were in 1940. Revenues increased 47.19 percent, so that gross revenues amounted to \$176,628,000 in 1948. Expenses increased 85.19 percent, so they totaled \$185,190,000 in 1948. Thus there would have been an operating profit of \$20 million in 1940 and an operating loss of \$11,310,000 in 1948.

It is significant that in opposing the first request for an increase in rates it was claimed that it would bring the railways less revenue because higher railway rates would divert business from the railways to trucks and inland waterways. Heretofore shippers had based their opposition to higher rates on the contention that the railways did not need larger revenues. When it was suggested that regional hearings be held on the application the railways asked for an emergency increase of 8 percent. This plea was met by shippers attempting to show that an emergency increase was not needed. The hearings were still going on in December.

Labor. An attempt was made to force further wage increases for both skilled and unskilled railway workers through strike threats. Uninterrupted railway operation was absolutely dependent on trainmen doing their work. President Truman let it be known that he would take over the railways, under the authority granted the Commander in Chief during the war, rather than permit an interruption of railway transportation.

Car Building. With a severe car shortage threatening at the beginning of 1948 railway managements called on car builders to increase their output. A goal of 10,000 cars a month was set. This goal was attained in only two or three months of 1948, but for the entire year the output of new cars by commercial concerns was slightly over 110,000 cars. With 85,000 cars so badly in need of repair as to be unserviceable the net gain in usable cars was 25,000.

Reorganizations. In 1946 the Seaboard Air Line Railway property was turned over to a new company, The Seaboard Air Line Railroad Company. The owners of the property, holders of the Railway Company common and preferred stock, had been entirely wiped out and its creditors, the bond holders, alone had participated in the distribution of the Railroad Company stock. From the start of operations of the new company interest on its bonds had been paid and, in December, 1948, a dividend of \$1 a share on the new (Railroad) stock was declared. The property consists of a single-track line from Richmond, Va., to Jacksonville, Fla., from where it continues south to Tampa on the west coast of Florida.

A line from Norfolk, Va., that connects with the Richmond-Jacksonville line gives the Seaboard Air Line two northern termini, one a source of fuel coal (Norfolk) and the other a destination for Florida products. There is also an east and west line to Birmingham, Ala.

Dividends. The Pennsylvania Railroad resumed the payment of dividends which had been passed in 1947. The company has only one class of stock—common. It has a par value of \$50 a share and is very widely held by small investors. Up to 1947 it had been paying \$1 a share all through the depression and for 100 years before that. Resumption was at the rate of \$1 per share, 2 percent on par value.

Taken as a whole the dividend changes in 1948 give a significant picture of the financial condition and prospects of the railways of the United States. The Seaboard, connecting population centers with Florida and carrying fruit, vegetable, and luxury passenger traffic, was able after drastic reorganization to inaugurate dividends. The Pennsylvania Railroad, carrying coal and steel, was able to resume dividends; as also was the New York Central, carrying miscellaneous freight over its water-level route. In other words, railways peculiarly well adapted to their situation were making a satisfactory profit.

Motive Power. Officers in the mechanical departments of American railways have come to a general agreement that Diesel engines are more satisfactory as motive power than steam engines. The recent widespread building of railway shops especially designed to repair and service Diesels marked the acceptance of Diesels as standard motive power. There is still a difference of opinion as to the most economical weight. The two figures most often mentioned are 60,000 and 100,000 lb.

At the end of 1946 the railways owned 37,255 steam locomotives and 4,222 Diesel and electric locomotives. On Dec. 1, 1948, they had 32,854 steam locomotives and 6,201 Diesel and electric locomotives.

Earnings. In 1948 the railways earned the largest gross income for any year in their history. It amounted to \$9,626 million and compared with the \$9,437 million earned in 1944, the largest heretofore. The volume of business done in 1948 was smaller, but the rates were higher and so were the expenses. The accompanying table gives a con-

RAILWAY REVENUE AND EXPENDITURE, 1947-1948
[000 omitted]

	1948	1947
Total operating revenue.....	\$9,626,000	\$8,685,000
Total operating expense.....	7,498,000	6,797,000
Taxes.....	987,000	936,000
Operating income.....	970,000	781,000
Net after bond interest.....	653,000	479,000
<i>Operating revenue</i>		
Freight revenue.....	7,952,000	7,041,000
Passenger revenue.....	954,000	963,000
Mail revenue.....	191,000	170,000
Express revenue.....	121,000	116,000
Other revenue.....	408,000	395,000
Total.....	9,626,000	8,685,000
<i>Operating expense</i>		
Maintenance of way, structure.....	1,365,000	1,212,000
Maintenance of equipment.....	1,702,000	1,476,000
Traffic.....	195,000	176,000
Transportation.....	3,831,000	2,538,000
General.....	405,000	375,000
Total.....	\$7,498,000	\$6,797,000

densed income account for class I (companies earning a million dollars or more annually) railways of the United States.

The average revenue per ton per mile in 1948, based on the first nine months, was 1.238 cents compared with 1.076 cents in 1947. The average revenue per passenger per mile in 1948 was 2.294 cents compared with 2.097 cents in 1947.

Record Operation. The number of net tons per freight-train hour was 18,768 in 1948 compared with 18,126 in 1947.

Transportation Produced. The railways of the United States carried 640,000 million tons of freight one mile in 1948. In 1947 they carried 654,728 tons one mile and in 1944, the peak year, they carried 737,246. It is inaccurate to say that higher freight rates alone accounted for the higher revenue in 1948. The nature of the commodity carried has quite a lot to do with the revenue earned.

Carloads of coal carried in 1948 amounted to 8,730,000, which was less by 358,000 cars than the amount of coal carried in 1947. On the other hand carloads of ore carried in 1948 totaled 2,781,000, which was 129,000 cars more than was carried in 1947. There were 4,000 more cars of coke carried in 1948 than in 1947. Carloads carried of all other commodities showed a decrease in 1948 as compared with 1947. The average revenue per ton per mile in 1948 was 1.238 cents compared with 1.076 cents in the previous year.

Employment. The average number of men employed by the railways of the United States in 1948 was 1,327,000 and the total payroll was \$4,743 million in that year. In the previous year the total number of men was 1,351,961 and the total payroll was \$4,350 million. The compensation per employee per year was \$3,575 in 1948 and \$3,218 in 1947.

Railroad Retirement Board. The number of beneficiaries on the retirement rolls on Oct. 31, 1948, was 332,471 compared with 267,556 on that date in 1947. Total retirement benefit disbursements during the month of October, 1948, amounted to \$23,243,506 compared with \$18,885,910 in October, 1947. This is at the rate (in 1948) of about \$70 a month for each beneficiary. In the first 10 months of 1948 a total of \$24,271,441 was paid for unemployment compensation compared with \$34,355,342 paid in the first 10 months of 1947.

Railroad Credit Corporation. This corporation, which made its final distribution in 1948, was set up in 1932 and during its existence made loans totaling \$73,691,000. It had only minor losses, paid

all its operating expenses, and returned to the contributing railways slightly more than 100 percent of the original fund. —WILLIAM E. HOOPER

RAPID TRANSIT. In spite of high operational and labor costs during 1948, the rapid transit field was characterized by a gradual replacement of badly-worn equipment and improvement in service. In the first half of 1948 traffic showed gains, with city travel up 6.7 percent and suburban up 1.2 percent.

Most rapid transit systems which had not previously raised fares (and some which had) were granted increases, but often the rise was barely sufficient to meet increased labor and operating costs leaving nothing for improvement. New York raised subway fares from the traditional nickel to 10 cents and bus fares have been raised first to 6, later to 7 cents, but many companies claim that 10 cents is the operational minimum.

Although new trolley cars are being built and, in many large cities, have proved efficient where rush-hour peaks exceed 2,500 persons an hour, the number in use in this country and elsewhere is declining annually. In Kingston, Jamaica, people are proud of their shiny new American buses, but miss the convenience of boarding the open trams on the run at any point which suited their fancy. However, in San Francisco, while they love their ancient cable cars, they agree the trolley coaches which are replacing them are more convenient.

New York has removed the trolley cars from the Williamsburg Bridge and the Norton Avenue line to Coney Island. Forty of these cars were to be sent to Vienna under the ERP. All trolley lines in the Bronx have been supplanted by buses. New Orleans has converted 2 car lines to trolley coaches this year and plans 2 more in 1949. Halifax, N.S., has converted from small one-man cars to trolley coaches and increased its mileage. The city and the transit company have developed an interesting profit-sharing agreement.

In Cleveland existing bus lines have been cut in half. The congested central part of the line is served by local buses while extra-fare expresses stop only at transfer points until they reach outlying districts. A new development in trolley coaches permits express coaches to pass locals on the same line.

More than 20 cities have installed revenue-producing radios in buses. Installed in the rear they draw passengers to the back of the bus. During 1949, Chicago will spend \$11 million for 400 new buses and 130 new elevated cars, the first new cars to be purchased in 24 years.

The London Underground's Central Line was extended on both ends for a total of 10 miles. It now runs from West Ruislip to Greenford. Work on this extension commenced before the war and was completed in November at a cost of \$8 million. To increase passenger comfort, doors are opened individually by push buttons, thus eliminating draft when no one wishes to enter or leave the car.

The IND division of the New York subway system opened a 4-station extension in Brooklyn on the Fulton Street Line to Euclid Avenue, during November. This was constructed at a cost of \$47 million. At the same time a \$2 million push-button signal and control system was inaugurated. One man sitting at a horseshoe panel can route all trains on the new line. Automatic safety devices make mistakes virtually impossible even with trains running on 90 second headways.

With the fare increase on the subways, New

York further consolidated its 3 subways allowing passage from one division to another without payment of additional fare. Many platforms were extended to accommodate longer trains.

Stockholm, Sweden, is building a subway to be completed about 1950. One is under study for Sao Paulo, Brazil, and another from Catia to Petare, Venezuela. Cincinnati plans to discontinue its subway system and convert all transportation to buses, using the tubes for other purposes. The Dearborn Street Subway in Chicago is due to be completed early in 1949.

In Moscow, work has been going on for a belt line connecting the 7 major railway stations which are located on the edge of the city. It was hoped that this would be completed by the end of 1948. In Calcutta, work is scheduled to start on a \$150 million electric railway to circle the city on a high level viaduct.

—J. W. HAZEN

RECLAMATION, Bureau of. A Bureau of the U.S. Department of the Interior which constructs and operates multipurpose reclamation projects in the 17 Western States. During 1948 the Bureau supplied irrigation water to 4,500,000 acres of the approximately 5 million irrigable acres in project areas, while electric power production totaled nearly 17,000 million kilowatt-hours. Other benefits include river regulation and flood control, preservation of fish and wildlife, recreation, and water for municipal and industrial use. Crops valued at more than \$555 million were produced in 1947.

Projects upon which there was a substantial amount of construction during 1948 include Central Valley in California, Columbia Basin in Washington, Davis Dam in Arizona and Nevada, Colorado-Big Thompson in Colorado, and units of the Missouri River Basin Project in Montana, North and South Dakota, Wyoming and Nebraska. Commissioner, 1948: Michael W. Straus.

RECONSTRUCTION FINANCE CORPORATION. Pursuant to the provisions of Public Law 548, 80th Congress, 2nd Session, approved May 25, 1948, the Reconstruction Finance Corporation was given succession through June 30, 1956. The Corporation was originally established by the Congress Jan. 22, 1932, and began operations February 2 of that year. The capital stock of the RFC, originally fixed at \$500 million, all of which was subscribed by the United States, has been reduced to an outstanding amount of \$100 million through retirement at par of \$175 million in 1941 and \$225 million in 1948.

Management of the Corporation is vested in a bipartisan Board of five Directors, appointed by the President by and with the advice and consent of the Senate. It functions through a principal office at Washington, D.C., thirty-one Regional Offices located throughout the continental United States, and Special Representatives at San Juan, Puerto Rico, and Honolulu, T.H.

Under existing law RFC is authorized: (1) To make loans to business enterprises. Loans to railroads engaged in interstate commerce or air carriers engaged in air transportation require the approval of the Interstate Commerce Commission or the Civil Aeronautics Board, respectively. (2) (a) To make loans to financial institutions; (b) to subscribe to or make loans upon non-assessable preferred stock in insurance companies if the Secretary of the Treasury certifies that funds for capital purposes are needed. (3) To make loans to or purchase the obligations of States, municipalities, political sub-divisions of States, or other public

agencies and bodies to aid in financing projects authorized under Federal, State or municipal law.

(4) To make loans determined to be necessary or appropriate because of floods or other catastrophes.

(5) To make loans to business enterprises to provide financial assistance for the production of prefabricated houses or prefabricated housing components, or for large scale modernized site construction. For all purposes enumerated above, the total amount of investments, loans, purchases and commitments made subsequent to June 30, 1947 shall not exceed \$2,050 million outstanding at any one time.

The Corporation may make loans to business enterprises either directly or in participation with banks, provided the credit sought is not otherwise available on reasonable terms and that such loans are of such sound value or so secured as reasonably to assure repayment. During the fiscal year 1948 more than fifty percent of the number of all business loans authorized by the Corporation were made in participation with banks and approximately ninety percent were in amounts of \$100,000 or less. From June 30, 1947, to July 1, 1948, RFC authorized 4,725 business loans aggregating approximately \$277 million and in 2,622 of those loans banks participated in an aggregate amount of approximately \$53 million. The outstanding amount of business loans as of June 30, 1948, was \$303,417,000. In addition to business loans, other loans and investments authorized by the Corporation over the same period included those to public agencies amounting to approximately \$24,342,000, catastrophe loans aggregating \$1,814,000, and purchase of home loans made pursuant to the National Housing Act, as amended, in the amount of \$286,000,000. Total loans and investments outstanding as of June 30, 1948, amounted to \$1,178,000,000.

Federal National Mortgage Association, an RFC subsidiary, is authorized to purchase mortgages insured subsequent to April 30, 1948, under certain sections of the National Housing Act, as amended, and to purchase real estate mortgages on homes and farms guaranteed after April 30, 1948, under the provisions of the Servicemen's Readjustment Act of 1944, as amended. (Public Law 864, 80th Congress, 2nd Session, July 1, 1948; Public Law 901, 80th Congress, 2nd Session, Aug. 10, 1948.) The objective of the program is to establish and maintain a secondary market for such mortgages with a view to encouraging the extension of credit to assist in financing the purchase of homes and the construction of rental housing. Such mortgages must meet certain requirements prescribed in the legislation in order to be eligible for purchase by the Association.

The only tin smelter of consequence in the Western Hemisphere was constructed at Texas City, Texas, by RFC at a cost of approximately \$8,650,000 to insure a domestic supply of tin in the United States. Since completion in 1942, the smelter has been operated for the account of RFC, and during the 1948 fiscal year the Corporation's sales of tin amounted to \$118,591,000. The Corporation is authorized to operate this smelter by lease or otherwise; to buy, sell and transport tin, tin ores and concentrates; and to finance research in tin smelting and processing until June 30, 1951, or until such earlier time as the Congress shall otherwise provide. (Public Law 824, 80th Congress, 2nd Session, approved June 29, 1948.)

RFC's investment in synthetic rubber manufacturing plants and related facilities which were built during the national defense and war periods

amounted to approximately \$672 million at the close of the war. A few of these plants have been sold; some have been placed in stand-by condition; and others have been continued in operation for the account of RFC. During the period July 1, 1947, to June 30, 1948, the Corporation's sales of synthetic rubber of all types totalled \$197,720,000. Under the provisions of Public Law 469, 80th Congress, 2nd Session, approved March 31, 1948 and Executive Order 9942, Apr. 1, 1948, RFC is authorized to continue the production and sale of synthetic rubber and the component materials thereof until June 30, 1950. The Act requires that a study be made with the objective of determining and formulating a program for disposal to private industry by sale or lease of the government-owned rubber producing facilities, and a report made to the President and to the Congress not later than Apr. 1, 1949.

The vast stockpiles of more than two hundred strategic minerals and metals and other critical and strategic supplies acquired by RFC for national defense and war purposes have been in process of liquidation since the cessation of hostilities, and during the 1948 fiscal year such materials and supplies amounting to approximately \$170 million were sold or transferred to the national stockpile. As of June 30, 1948, inventories of such materials and supplies were carried at a book value of \$35,295,000.

The gross wartime investment of RFC in industrial plants, equipment, flying schools and other facilities including related expense applicable to land, plants, machinery and equipment amounted to approximately \$7,800 million. As of June 30, 1947, the remaining plants and facilities were carried at a book value of \$1,245 million exclusive of the synthetic rubber plants, the Texas tin smelter, and the fiber plantations in Central America, Panama, and Haiti. Liquidation of these facilities through sales and declarations as surplus to War Assets Administration has reduced the Corporation's investment in such facilities to \$141,500,000 as of June 30, 1948. The gross original investment in the synthetic rubber, tin, and fiber facilities amounted to approximately \$694 million.

Plants and equipment formerly owned by Smaller War Plants Corporation were transferred to RFC for liquidation purposes pursuant to Executive Order issued in December, 1945. On June 30, 1947, the remaining plants and equipment were carried at a book value of \$4,349,000 and this book value was reduced to \$1,407,000 as of the close of the 1948 fiscal year, through sales, surplus declarations, and disposals otherwise.

Late in December, 1947, the two remaining programs of U.S. Commercial Company, an RFC subsidiary, namely the "Pacific Ocean Operations" and "Trade with Occupied and Liberated Countries," were taken over by the Department of the Navy and the Department of the Army, respectively. Upon consummation of a few miscellaneous transactions, the Company will be dissolved.

The net profits from operations of the war damage insurance program amounting to \$209,827,810 were paid into the Treasury of the United States in August, 1947, and with the exception of some pending claims and unfinished audits, liquidation of the affairs of RFC's subsidiary, War Damage Corporation, has been substantially completed.

RED CROSS. The International Red Cross is comprised of the International Committee of the Red Cross, an independent, neutral body entrusted

with full maintenance of fundamental Red Cross principles; the League of Red Cross Societies, a federation of national societies for cooperation and mutual assistance; and the national Red Cross societies.

League of Red Cross Societies. Founded in 1919 as the world federation of national Red Cross and Red Crescent Societies. The League now groups 66 of those national Societies, with a combined membership of approximately 100 million. Chairman of the Board of Governors, Basil O'Connor, President of the American National Red Cross; Vice Chairmen, Lord Woolton (Great Britain), Dr. Monlin Chiang (China), Prof. G. Brouardel (France), Dr. Vivalcio Palma Lima Filho (Brazil) and G. A. Bohny (Switzerland); Secretary General, B. de Rougé. The League, the national Societies, and the International Committee of the Red Cross (Swiss) form the International Red Cross, whose first meeting since 1939 was held in Stockholm in August, 1948. Publications: *The Red Cross World*, *Junior Red Cross Newsletter*, *Coordinated Relief Bulletin*, *Bulletin of Red Cross Nurses*, *Public Health Bulletin*, etc., in French, English, and Spanish. Headquarters: 8 Rue Munier-Romilly, Geneva, Switzerland.

American National Red Cross. The Traditional agent of the American people in times of disaster, The American National Red Cross is one of 66 similar societies throughout the world. Organized in 1881, with Clara Barton as its first president, the society was reincorporated under government supervision, under a charter granted by the Congress in 1905, in accordance with the Treaty of Geneva, which the United States signed (1882).

In addition to providing for volunteer aid to the sick and wounded, the charter requires the organization to act as a link between the people of the United States and the armed forces, and to give relief in times of suffering and calamity, whether national or international.

In peacetime disasters such as floods, fires, tornadoes, and other emergencies, the Red Cross Disaster Relief provides food, clothing, medical care, nursing service, and temporary shelter during the period of emergency and, when needed, gives continued care and rehabilitation on a family basis afterward. Through wartime experience and necessity the American Red Cross expanded many of its familiar welfare and educational programs and has since added new activities to meet peacetime needs. Most outstanding of these is the Red Cross Blood Donor Service (inaugurated in March, 1945) whereby Red Cross chapters may assist blood donor programs sponsored by medical or health agencies to furnish blood and blood derivatives without charge to physicians, hospitals, or patients.

Red Cross field directors served in 117 Veterans Administration offices to assist veterans in securing benefits for which they may be eligible. Nationwide service to veterans and their dependents is provided by the Red Cross through chapters and chapter branches in approximately every county in the United States.

The Home Nursing program instructs homemakers in simple nursing skills required for home care of the sick. The objective of the home nursing instruction, begun in 1908, is to equip one member of every family to meet daily emergencies and safeguard family health. A First Aid, Accident Prevention, and Water Safety Service is maintained to help curtail the tremendous death toll from highway and home accidents, and drowning. The Society has approximately 10,000 mobile first aid

units and 2,000 highway first aid stations. Volunteer Services of the Red Cross include the following: Canteen Service, Motor Service, Nurse's Aide Service, Gray Lady Service, Staff Aide, Social Welfare Aide, Arts and Skills, Entertainment and Instruction, and Production and Supply.

The American National Red Cross is supported by popular subscription to annual fund campaigns. In 1948 contributions totaled about \$73,300,000. During the fiscal year 1947-48, the Red Cross gave assistance in 303 disaster relief operations in 46 states and Alaska, aiding 312,355 persons. In the same period, Red Cross disaster expenditures totaled \$12,533,000.

Following charter amendments passed by the Congress in 1947, the new governing body of the Red Cross is a 50-member Board of Governors, which replaced the Central Committee and Board of Incorporators. President, Basil O'Connor. The President of the United States is national Honorary Chairman of the organization.

The national headquarters is in Washington, D.C. Area offices are in New York, N.Y., Alexandria, Va., Atlanta, Ga., St. Louis, Mo., and San Francisco, Calif. There are 3,751 local chapters and some 4,800 branches. Junior Red Cross enrollment of school children throughout the country was over 19,400,000. College units were authorized in 1942. The next National Convention was scheduled to be held in Atlantic City, N.J., June 27-30, 1949.

RED CROSS CONFERENCE, International. The 17th International Red Cross Conference—the first for more than ten years—took place in Stockholm, Sweden, August 20-30, 1948. It was attended by representatives of 50 governments and 52 of the world's 65 Red Cross, Red Crescent, Red Lion, and Red Sun Societies.

Projects of International Conventions. Draft Convention for the Protection of Civilians in Time of War. Soon after the first war, efforts started to amplify the rights of non-combatants recognized in the Hague Regulations of 1907, but by 1939 these efforts had not yet led to an international Treaty. The 1948 Stockholm Conference, acutely aware of the atrocities (deportations, concentration camps, slave labor, kidnapping of children, etc. and extermination of millions) committed by Germany and Japan, adopted a Draft Convention for the protection of civilians in time of war. The Convention is to protect civilians who (a) in case of war are, for whatever reason, in the power of a state of which they are not citizens, and (b)—a very important provision—in case of other conflict, such as civil wars and the like, are in the power of the opposite party (provided the other party also applies the regulations).

Generally speaking, all these persons are to be granted as much protection as is at all possible from a realistically humanitarian standpoint. Their person and honor must be protected under all circumstances. Absolutely forbidden are: any form of physical or moral compulsion; punishment for the deeds of others; the taking of hostages; collective punishment; intimidation or any form of terrorism. Specially protected, with respect to food, medical care, and against the effects of war, are children under 15 years of age, pregnant women, and mothers of children up to 7 years of age. It is provided to set up "safety zones," "medical zones," and "neutralized zones" and localities; to protect evacuees, wounded and sick, hospitals, and medical personnel.

Enemy aliens must be permitted to leave the ter-

ritory if they wish, except for "imperative considerations of security" which must be established by due process of law. They shall be under the protection of a "protecting power." Those who stay on, and inhabitants of occupied territory, must be permitted to make a living, or be cared for by the state in whose power they are. Similarly, enemy citizens, or adherents of the opposing side, are to be interned or forcibly evacuated only as extraordinary measures, for reasons of absolute necessity—to be established by special "tribunals for foreigners;" they have the obligatory right to appeal, and the state must notify the protecting power. Forced deportation from occupied territory is unconditionally prohibited; as is the transfer of inhabitants of the occupying state into occupied territory. In protecting internees against discriminatory or unfair punishment the Draft Convention goes as far as, and partly further than, the Geneva Prisoners of War Convention.

Special emphasis is laid on the protection and help to be given to the "protected persons," and to internees in particular, by the "protecting powers" and by such humanitarian organizations as the International Red Cross Committee; the duty of each state to give information about the fate of "protected persons" and to report about the measures taken by it, generally and individually. Finally, there are provisions for the punishment of violators of the Convention.

Amendments to the Prisoners of War Convention of 1929. Some proposals are not new law at all but the terrible experiences of World War II made it advisable to state them explicitly (e.g., that prisoners of war must not be subjected to medical experiments). Others tend to tighten and improve various provisions which, as World War II showed, are not quite clear (e.g., the type of work that may be assigned to a prisoner of war) or are open to malevolent interpretation (e.g., deprivation of food as collective disciplinary measure). Probably most important in the light of modern development are: (a) the provisions clarifying the conditions under which captured members of resistance or partisan movements have to be treated as regular prisoners of war; (b) that prisoner-of-war treatment must be granted to captured merchant marine; and (c) that the Convention is to apply "to all cases of armed conflict which, not being of international character, develop in the territory of one or several of the High Contracting parties," provided that the other side also obeys the Convention. This means that, e.g., in civil wars, "police actions," "interventions," and the like, members of the rebel forces, insurgent troops, etc., if captured, must not be shot but granted all privileges of prisoners of war, provided their own side keeps reciprocity.

Amendments to the 1929 Convention concerning the Sick and Wounded (Red Cross Convention). With respect to sick and wounded opponents, the same extension to civil wars, etc. was adopted by the Stockholm Conference even without making it dependent on reciprocity. The protection of sick and wounded also has to be granted under any form of occupation regime.

Recommendation. In a very important "general recommendation" the Conference appealed to all governments to apply all these provisions even before formally adopting and ratifying them, since they "correspond to the profound aspirations of the peoples of the world;" the Draft Convention for the protection of civilians in particular, it said, only puts into exact language what has been the law before, or what have been "the most evident demands of universal conscience."

Atom Bomb. Another Resolution urgently demanded the outlawing of the atomic bomb. It denounces "blind weapons, i.e. those which cannot be guided with precision or which extend their ravages indiscriminately over vast territories," and "implores the Powers solemnly to prohibit, in an absolute fashion, recourse to such arms and the use, for war purposes, of atomic energy or any similar force."

Peace Work of the Red Cross. Several Resolutions dealt with peacetime activities of the Red Cross. One demanded for the Red Cross the same special facilities, transportation priorities, customs exemptions, etc., for their humanitarian work in peacetime as in time of war, especially during epidemics and public calamities; another that the Red Cross Societies should work for the gratuitous distribution of blood for, and the international standardization of, blood transfusion; it was resolved to intensify the social welfare work of the Red Cross; and to create special funds for international emergencies. Finally, the Conference adopted a long Declaration of Peace, "reaffirming the Red Cross' horror of war, and its determination constantly to work toward international understanding which would generate a durable peace among all nations . . . (through) the light against suffering wherever it exists."

—JOHN H. E. FUREN

REFORMED CHURCHES. This group embraces 5 different bodies with a total membership exceeding one million. The oldest group dates back to the early Dutch settlers in 1628.

Evangelical and Reformed Church. A union in 1934, of the Evangelical Synod of North America and the Reformed Church in the United States whose merger went into operation in 1941. The denomination has 2,791 churches, 2,429 ministers, and 708,382 members. More than 6,000 students attend its 13 educational institutions and 98,604 persons are cared for in 34 benevolent institutions. Foreign missions are served by 112 missionaries. Church property is valued at \$103,307,533. Total income from contributions, \$16,396,814. President, Rev. L. W. Goebel, 77 W. Washington St., Chicago 2, Ill.

Christian Reformed Church. A group of Dutch Calvinists who dissented from the Reformed Church in America in 1857. A total membership of 150,000 is served by 320 churches and 300 pastors. There were 3,000 baptisms in 1948. Twenty missionaries care for 700 members in China, India, and Nigeria. The Church maintains 1 college, 1 seminary, and numerous elementary and high schools which are parent controlled through School Societies. Its 3 benevolent institutions care for 1,000 persons. Contributions for denominational purposes alone exceeded \$2 million. Stated Clerk, Dr. R. J. Danhof, 944 Neland Ave., S.E., Grand Rapids, Mich.

Reformed Church in America. Established as the Reformed Protestant Dutch Church in 1628, it embraces many of the historic churches in New York and New Jersey. Today it has many strong churches in the Middle and Far West. There are 748 churches, 885 pastors, and 178,356 members. During 1947 there were 8,359 baptisms and 132,432 persons attending Sunday or Bible schools. The denomination maintains 2 colleges, 1 junior college, and 2 seminaries with 1,872 enrolled students. Total income from contributions is \$9,027,044. Headquarters, 156 Fifth Ave., New York 10, N.Y.

REFUGEES AND DISPLACED PERSONS. Three years after the end of the war the problem of approximately 900,000 refugees and displaced persons remaining

in Germany, Austria, and Italy challenged the resources of governments and international agencies. They were the residue of the slave-laborers, prisoners of war, and other persons deported by the Germans, as well as those who at or after the end of the war had fled from Eastern Europe to escape Communist rule or incidents of anti-Semitism.

During 1945, 1946, and the first half of 1947 approximately 7 million had been repatriated by the Western military authorities and UNRRA, and additional numbers by the Soviet authorities. The overwhelming majority of those who remained (mostly Poles, Balts, Ukrainians, Yugoslavs, and Jews) were non-repatriable refugees, unwilling to accept repatriation because of political, social or economic changes which had taken place in their home countries. Permanent settlement in Germany, Austria, and Italy also proved impractical for economic and psychological reasons. Resettlement in other countries mainly overseas remained as the only possible hope of reducing the displaced persons problem.

In order to provide for the repatriation or resettlement of refugees and for their interim care and maintenance pending ultimate disposition, the International Refugee Organization was created by a decision of the General Assembly of the United Nations in December, 1946. The Constitution of the IRO provided that the organization would come into formal existence when 15 governments, whose allocated contributions to the operational budget constituted 75 percent of the total, had become parties to the Constitution. Before these requirements were fulfilled the Preparatory Commission for IRO, originally set up as a planning body, assumed and performed the function of an operating agency from July 1, 1947, up to Aug. 20, 1948, when the IRO was finally constituted.

As long as the Preparatory Commission functioned as an interim organization, its funds proved inadequate as the Commission was dependent on advance voluntary contributions from governments. Such funds as were available had to be spent primarily for the care and maintenance of refugees and displaced persons, and the Commission was not in a position during the period to exploit fully all opportunities for the resettlement of refugees. When the IRO came into existence the contributions of governments were placed on a contractual basis and thus income more adequate to the task was assured.

The changed financial position of IRO was however not reflected in IRO operations until the fall of 1948. Up to July, 1948, the main reception country was the United Kingdom which during the operational year July 1, 1947, to June 30, 1948, had received 69,788 displaced persons under the movement known as Westward Ho; in the second half of 1948 resettlement to England declined sharply. Likewise Belgium, after having recruited over 20,000 displaced persons in order to cover her urgent need of miners, received smaller numbers in the last half of the year. On the other hand, resettlement in Canada, which in the operational year 1947-48 had received 25,244 displaced persons, was steadily increasing. There was also an increase in the movement to Venezuela and Australia. The prospects of larger resettlement in the United States and Palestine also developed.

The U.S. Displaced Persons Act of 1948, which came into force on June 25, 1948, permits entrance into the United States of 200,000 displaced persons who had reached the Allied occupation areas before Dec. 27, 1945, and 2,000 Czechoslovaks from among refugees who escaped in 1948 from their

Communist dominated countries. These displaced persons and refugees will be admitted without regard to immigration quotas, but their numbers will be charged annually against future quotas of the respective countries, up to 50 percent of the pertinent quota. In addition, 3,000 displaced orphans will be admitted as non-quota immigrants.

The Act also provides for regularization of the status of 15,000 displaced persons who had been admitted to the United States on a temporary basis before Apr. 1, 1948. Finally, the Act reserves 50 percent of the German and Austrian quotas in the fiscal years 1948-49 and 1949-50 to Germans from Poland, Czechoslovakia, Hungary, Rumania, and Yugoslavia who had been expelled from their countries and who were in Germany and Austria on the effective date of the Act.

The Act establishes preferences according to the country of origin of the displaced persons and to their occupational equipment. With regard to the country of origin, 40 percent of the visas are reserved for displaced persons from territories annexed by a foreign power (the Baltic States and Eastern Poland). As to occupational equipment, 30 percent of the visas are reserved for agricultural workers, a further priority being granted to certain categories of skilled workers, construction and clothing workers, professionals, and others. An assurance is required that the prospective immigrant will be employed and housed in the United States without displacing other persons from employment or housing.

Admissions to the United States of 2,499 refugees under the Act in the course of the year 1948 were disappointing. This resulted from delays in establishing the procedures of admission and from inadequate funds for implementation of the provisions of the Act.

The number of displaced persons resettled in Palestine greatly increased after the establishment of the state of Israel. By December, 1948, over 40,000 Jewish refugees had entered the country. It has been estimated that during the next two years the state of Israel will provide homes for all the Jewish displaced persons desiring to settle there.

From July 1, 1947, when the Preparatory Commission for the IRO started functioning, up to the end of September, 1948, a total of 255,779 were resettled. During the same period 57,117 displaced persons were repatriated to their homelands. Of this total 7,772 were overseas Chinese who had fled during the war to China from Burma, Malaya, the Netherlands East Indies, and the Philippines and were helped to return to their former countries of residence. Repatriated European displaced persons numbered 49,345 of whom 32,433 returned to Poland.

A survey made by the IRO has shown that the displaced persons are mostly people in the best productive years with many much needed skills. As of Mar. 31, 1948, there were nearly 600,000 persons receiving IRO care and maintenance in Germany, Austria and Italy. The survey covered 340,000 persons in the working ages of 16 to 65 (excepting mothers with children under 12 years). Over 98,000 were skilled and 24,000 semi-skilled workers, particularly in the clothing and textile trades and the construction industry. Furthermore, the survey listed 76,000 agricultural, 30,000 professional and 14,000 domestic workers. Only 11 percent of displaced persons covered by the survey had no previous work experience.

Apart from displaced nationals of United Nations countries, there are in Germany and Austria

numbers of displaced Germans constituting a problem of a different character. In Germany their number amounts to 9,500,000 including Reich Germans from the part of Germany under Polish administration, Sudeten Germans and ethnic Germans from Poland and Hungary who fled or were transferred to Germany under the Potsdam Agreement of 1945. Their resettlement in Germany is considered the only apparent solution. However, their integration into the German economy has proceeded slowly.

There are also in Austria 250,000 ethnic German refugees from Czechoslovakia, Hungary, and the Balkan countries. The problem of the eligibility of these Volksdeutsche in Austria for IRO assistance has been discussed at length in its legal and ethnological aspects. However, only single groups of Volksdeutsche appear to fall within the scope of the IRO. Pending further examination of the general problem, the eligibility of Volksdeutsche in 1948 was determined on an individual basis.

After the end of the war Czechoslovakia faced, apart from the problem of the Sudeten Germans, the serious problem of another minority—the Hungarian. This problem embittered Hungarian-Czechoslovak relations. A part of the Hungarians who lived in Slovakia were exchanged for Slovaks formerly resident in Hungary, others were moved from the solidly Hungarian southern strip of Slovakia to various parts of Bohemia. On Dec. 4, 1948, Czechoslovakia announced that Hungarians who had been moved to Bohemia could return to Slovakia, not necessarily to the same land from which they had been earlier expelled, but to equivalent holdings. The Hungarians were urged, however, not to return to southern Slovakia but to apply for farms in the western frontier area where land was available resulting from the expulsion of the Sudeten Germans.

A new displacement of population took place in Palestine as a consequent of the Arab-Jewish conflict. The number of refugees from Jewish-held Palestine exceeded 500,000. Within the state of Israel there were 7,000 Jewish refugees from Arab-held Palestine.

The partition of the Indian Empire into two dominions produced a mass movement of refugees in 1947 which continued into the first half of 1948. More than 11 million people were involved—Hindu refugees from Pakistan to the Indian Union and Moslem refugees in the opposite direction. The movement constituted in effect an exchange of population. By the end of 1948, however, some 4 million of the refugees remained unsettled.

—GEORGE L. WARREN

RELIGIOUS ORGANIZATIONS. Church membership in the United States in 1947 numbered 77,386,188 persons, the largest total in the nation's history. Four major groups account for the majority of religious membership: Protestant bodies, 46,149,676 members; Roman Catholic, 26,075,697 members; Orthodox, 575,000 members; Jewish, 4,641,000 members. For further information on the larger denominations, see separate articles.

RELIGIOUS SOCIETY OF FRIENDS (QUAKERS), The. A religious society developed from the conviction of George Fox (1624–91) that there is something of God in every man to which God speaks. If men will keep silent they will hear God's message in their hearts. There are about 170,000 Friends in the world today, of whom about 114,000 are in the United States and Canada. There are 28 Yearly Meetings in America. The most recent, which was set up in 1947, is called Pacific Yearly Meeting and includes nearly 20 small meetings scattered from

Mexico to British Columbia. The largest groups of Friends are in the vicinity of Philadelphia, Pa., Richmond, Ind., and Whittier, Calif. Eleven of the Yearly Meetings in the United States and Canada are affiliated with the Five Years Meeting of Friends with headquarters in Richmond, Ind. Six Yearly Meetings are affiliated with the Friends General Conference with headquarters in Philadelphia. The other 11 Yearly Meetings are independent bodies, but are in fellowship with the other groups.

There are 12 Friends Colleges located in Pennsylvania, Indiana, Kansas, North Carolina, Nebraska, Oregon, California, Iowa, Ohio, and Ontario, Canada. Friends secondary schools are maintained in 12 different States. There are 3 main Quaker journals published in the United States—*The American Friend*, published in Richmond, Ind., *The Friends Intelligencer* and *The Friend*, published in Philadelphia.

The London Yearly Meeting is the largest and in some ways the leader among the yearly meetings. Since World War I small groups of Friends have formed Yearly Meetings in France, Germany, Denmark, and Austria.

At home the Service Committee seeks to promote understanding by holding Institutes of international relations, Seminars on industrial relations, and to promote friendly race relations between all peoples. Young people of high school and college age participate in Work Camps, gaining now insights into social and industrial problems by working with their hands while discussing questions with leaders of labor and capital.

The Friends, a small denomination, are able to do all this by the generosity of the public in giving funds and supplies. In particular, men and women have contributed used clothing for European relief so that in the fiscal year ending Sept. 30th, 1948, the American Friends Service Committee shipped 1,133 tons of clothing, shoes, household linen, bedding, soap, and textiles to Europe and Asia. Much more could have been used.

The Friends World Committee for Consultation, with headquarters in London, keeps in touch with Friends groups throughout the world by inter-visitation and conferences. The next conference of the American Section will be in Jamaica, British West Indies, in April, 1949. There are 54 organized groups of Friends throughout the world. Through the Friends World Committee they are organized into 3 sections, namely, the American Sections, the European Section, and the Pacific Area. The last Friends World Conference was held in Swarthmore, Pa. in 1937. The next Friends World Conference is expected to be held in England in 1952.

The American Friends Board of Missions has missions in Palestine, Cuba, Jamaica, and British East Africa. The last named set up in 1947 as a Yearly Meeting, the second largest in the world, with about 20,000 members. There are also Friends missions, under other Boards, in Japan, China, India, and Bolivia.

REPUBLICAN PARTY. The Republican National Committee was authorized at the Republican National Convention in Philadelphia in June, 1856. The chief purpose of the Committee today is to conduct the National Convention every four years, and to assist in the election of the Republican Presidential candidate nominated at that Convention, as well as in the election of other Republican candidates for national office. This includes the raising of funds for the Presidential election campaign. The Committee cooperates with and pro-

vides services for Republican members of Congress, state and local Republican organizations, the Young Republicans, and women's Republican groups. It publishes *The Republican News* and works to promote the Republican cause through press and radio releases. Membership: 106. Chairman, Hugh D. Scott, Jr.; Secretary, Mrs. Charles P. Howard; Treasurer, James S. Kemper; General Counsel, Barak T. Mattingly. Headquarters: 1337 Connecticut Ave., NW, Washington 6, D.C.

RÉUNION. An overseas department of France, 420 miles east of Madagascar. Area: 970 square miles. Population (1946): 242,343. Chief towns: St. Denis (capital), 35,982 inhabitants; St. Paul, 25,959; St. Louis, 24,004; St. Pierre, 22,289. The main port is Pointe-des-Galets. Education (1946): 242 schools and 33,576 pupils. Products include sugar, rum, manioc, coffee, vanilla, and spices. Foreign trade (1946): 712,700,000 francs; exports 1,326,400,000 francs. On Mar. 19, 1946, Réunion was made a department of France, effective from Jan. 1, 1947, and was represented in the National Assembly (3 deputies), in the Council of the Republic (2 councillors), and in the Assembly of the French Union (1 delegate).

REYNOLDS FOUNDATION, The Z. Smith. Established in 1936 by Richard J. Reynolds, Mrs. Mary Reynolds Babcock, and Mrs. Nancy Reynolds Bagley, for charitable, civic, and eleemosynary purposes within the State of North Carolina, by a grant of all the property received by them from the estate of their late brother, Zachary Smith Reynolds of Winston-Salem, N.C. Since its organization the Foundation has made annual grants to the North Carolina State Health Department for the inauguration and maintenance of a campaign for the control of venereal disease in the State, totaling \$1,541,000. Contributions for other charitable purposes since organization have amounted to \$773,000, and administrative expenses to \$16,454.

Since July 1, 1947, the Foundation has pledged its income to Wake Forest College for the latter's program of expansion and relocation near Winston-Salem. With an original endowment of \$7 million, the present assets of the Foundation, as of Dec. 31, 1947, were \$10,457,020, and total amount expended to date, \$2,330,454.

The Trustees of the Foundation are: Richard J. Reynolds, Mrs. Mary Reynolds Babcock, Mrs. Nancy Reynolds Bagley, W. N. Reynolds, Thomas B. Butler, Charles H. Babcock, Henry Walker Bagley, and L. D. Long. Secretary, Stratton Coyer. Offices: 1206 Reynolds Building, Winston-Salem 3, N.C.

RHODE ISLAND. A New England State. Area: 1,300 sq. mi. Population: (July 1, 1948) 743,000, compared with (1940 census) 713,346. Chief city: Providence (capital), 253,504 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$45,683,000; total expenditure, \$58,895,000.

Legislation. The General Assembly met in annual session January 6 and adjourned April 29. Increased costs and expanded services resulted in record level appropriations. A sum of \$3 million in annual State aid to cities, begun in 1947, was continued, and authorization was given for a State airport at Hillsgrove. The State retirement system was broadened to cover teachers, and the

minimum annual pension was boosted. The Governor's salary was increased and a constitutional amendment initiated to raise salaries of legislators, now among the lowest in the United States, to \$1,500 per year.

Other enactments included laws of an "open competition" nature regulating fire and casualty insurance; an arrest law requiring immediate notice to families of persons arrested for misdemeanors; expansion of Department of Public Works functions to include airport control; and consolidation of the Port Authority and the Industrial Commission into a new Port and Industrial Commission which also supersedes the State Planning Board. Primary and election laws were revised and a constitutional amendment initiated to provide permanent registration.

Elections. The 4 electoral votes went to Truman who received 188,619 votes to Dewey's 134,892 and Wallace's 2,587. Truman's plurality was slightly larger than Roosevelt's in 1944. Democratic Senator Theodore Francis Green was reelected. Democrats retained the 2 House seats. Governor John O. Pastore, Democrat, was reelected. Other State officers elected were: Lieutenant Governor—John S. McKiernan; Secretary of State—Armand H. Coté; Attorney General—William E. Powers; Treasurer—Raymond H. Hawksley.

Officers, 1948. Governor, John O. Pastore; Lieut. Governor, John S. McKiernan; Secretary of State, Armand H. Coté; Attorney General, John H. Nolan; State Treasurer, Russell H. Handy; Director of Finance (Acting), Howard A. Kenyon; Controller, M. Joseph Cummings.

RHODESIA, Northern. A British protectorate in the interior of southern Africa. Estimated total area: 287,640 square miles. Population (1946 census): 1,565,547, of whom 21,809 were Europeans and 1,115 Asiatics. Capital: Lusaka. Education (1946): 2,119 schools and 156,347 pupils.

Production, etc. Agricultural products include maize, tobacco, wheat, and livestock. The most important timber product is the Rhodesian "redwood." Mineral production in 1947 included (in metric tons): copper 192,000, lead 15,840, and zinc 21,480. Other minerals are cobalt alloy, iron ore, selenium, vanadium, and silver. Total value of mineral output (1946): £14,503,196. Foreign trade (1946): imports £7,400,000; exports £12,600,000.

Government. Budget estimates (1947): revenue £4,295,543; expenditure £4,352,611. Public debt (Jan. 1, 1947): £2,347,007. The protectorate is administered by a governor with the aid of an Executive Council and a Legislative Council. Governor: Sir Gilbert McCall Rennie.

RHODESIA, Southern. A British self-governing colony in the interior of southern Africa, grouped with British Central Africa territories. Area, 150,333 square miles. Population (1946), 1,777,000. Chief towns: Salisbury, (capital) 69,098 inhabitants, Bulawayo 52,723, Umtali, Gwelo, Gatooma and Oue Oue. Education (1946): 2,000 schools and 195,255 pupils.

Production and Trade. The chief agricultural products include maize, tobacco, citrus fruits, tea, dairy products, groundnuts, and livestock. Mineral products include gold, chrome ore, asbestos, tungsten, coal, and tin. The value of base metals output in 1946 was £2,912,634; gold £4,697,526. Foreign trade (1947): imports £33,360,000; exports £19,080,000. Chief exports: tobacco, gold, and asbestos.

Government. Budget estimates (1947-48): revenue £11,148,000; expenditure £21,603,387. Public debt (Mar. 31, 1946): £24,684,264. The colony has a responsible government, headed by a governor who is assisted by an Executive Council and a Legislative Assembly of 30 members. The latter is elected for a five-year term by British subjects over 21 years of age, subject to certain qualifications. The constitution limits the powers of the Legislative Council with respect to appropriation and taxation bills. Governor: Sir John Noble Kennedy. Prime Minister: Sir Godfrey M. Huggins.

RICE. The 1948 output of rice in the United States, according to the December report of the Bureau of Agricultural Economics, U.S. Dept. of Agriculture, was estimated at 81,170,000 bushels, compared with 78,259,000 bu. in 1947 and the 10-year average (1937-46) of 60,480,000 bu. Yields of the chief producing States for 1948 were (in bushels): Louisiana 23,522,000, Texas 23,040,000, Arkansas 19,740,000, California 14,868,000.

World Rice. According to the Nov. 8, 1948, issue of *Foreign Crops and Markets* (U.S. Dept. of Agriculture), the 1948-49 forecast (preliminary) of world rice production was 7,318 million bu., compared with 7,102 million bu. in 1947. Yields of the principal producing countries for 1948-49 were (in million bushels): China 2,275, Indian Union 1,550, Japan 576, Pakistan 550, Netherlands East Indies (Indonesia) 275 (in 1947-48), Burma 260, French Indochina 250, Siam 240, Korea 150, Philippine Republic 119. The world area sown to rice in 1948-49 was estimated at 213,300,000 acres, compared with 210,800,000 acres in 1947-48.

ROADS AND STREETS. The mileage for Federal-aid road construction completed during the fiscal year July 1, 1947, to June 30, 1948, is not available as of this writing; however, the dollar volume of the Federal-aid highway work under construction, as of July 31, 1948, of approximately \$906 million is far in excess of that of any previous dollar volume in history. The Federal-aid Highway Act of 1948

APPROXIMATE APPORTIONMENT OF FEDERAL-AID HIGHWAY PROGRAM

State or Territory	Amount	State or Territory	Amount
Alabama.....	\$ 8,708,000	New Hampshire ..	2,047,000
Arizona.....	5,113,000	New Jersey.....	8,377,000
Arkansas.....	6,707,000	New Mexico.....	5,628,000
California.....	19,789,000	New York.....	30,087,000
Colorado.....	6,828,000	N. Carolina.....	10,136,000
Connecticut.....	4,241,000	N. Dakota.....	5,286,000
Delaware.....	1,805,000	Ohio.....	17,792,000
Florida.....	6,238,000	Oklahoma.....	9,096,000
Georgia.....	10,281,000	Oregon.....	6,822,000
Idaho.....	4,394,000	Pennsylvania.....	22,096,000
Illinois.....	20,490,000	Rhode Island.....	2,626,000
Indiana.....	10,716,000	S. Carolina.....	5,576,000
Iowa.....	9,860,000	S. Dakota.....	5,537,000
Kansas.....	9,473,000	Tennessee.....	8,916,000
Kentucky.....	7,949,000	Texas.....	27,397,000
Louisiana.....	6,655,000	Utah.....	1,766,000
Maine.....	3,471,000	Vermont.....	1,837,000
Maryland.....	4,264,000	Virginia.....	7,877,000
Massachusetts.....	9,186,000	Washington.....	6,774,000
Michigan.....	14,738,000	W. Virginia.....	7,817,000
Minnesota.....	11,018,000	Wisconsin.....	10,118,000
Mississippi.....	7,137,000	Wyoming.....	4,276,000
Missouri.....	12,787,000	Hawaii.....	3,676,000
Montana.....	7,066,000	Dist. of Col.....	2,611,000
Nebraska.....	7,466,000	Puerto Rico.....	2,733,000
Nevada.....	4,308,000	Total.....	\$176,000,000

(Public Law No. 834) authorizes the appropriation of \$450 million for the fiscal year ending June 30, 1950, and a like sum for the fiscal year ending June 30, 1951. Forty-five percent of the total is to be allocated to projects on the Federal-aid Highway System, 30 percent for projects on the second-

ary system, and 25 percent on the Federal-aid Highway Systems in urban areas. Matching of funds is on a 50-50 basis.

Public Roads Administration has developed an approximate apportionment of the \$450 million by States, including Hawaii, Washington, D.C., and Puerto Rico. Those States with the greatest highway mileage will receive the largest apportionment, as indicated in the accompanying table. On this basis, New York will receive more than \$30 million as the largest percentage apportionment while Delaware will receive the lowest percentage.

During the year 1948 problems of design, construction, and maintenance received more attention probably than at any time in history. Highway problems were magnified by traffic accidents, shortage of engineering personnel, and increased use of the highways by heavy trucks. In regard to the shortage of highway engineering personnel, the American Association of State Highway Officials conducted a survey among the nation's engineering schools to determine interests of the undergraduate engineering student body. Of the 21,000 engineering students who expected to graduate in 1948, only one seventh were in civil engineering, and of this number, only 600 indicated any interest in highway engineering.

This is creating a serious problem both because of the unprecedented highway construction programs throughout the country and the fact that young engineering personnel has not been recruited for a number of years because of the war. In 1949 it is likely that highway departments will initiate better salary scales and will adopt changes in personnel policies. A committee on highway engineering personnel has been formulated by the American Road Builders Association and the universities are initiating research programs, which in the end, should interest more engineers in highway engineering.

A gratifying accomplishment during the year 1948 was the striking reduction in the traffic death rate. In May of 1946 this rate was approximately 12 for each 100 million miles traveled. This death rate has steadily decreased and in 1948 the figure may drop as low as 7.0 per 100 million miles of travel. Although there have been many factors operating in lowering the death rate, it is apparent that the action program that has grown out of the President's First Highway Safety Conference has been of primary importance.

Travel on the nation's highways was extremely heavy during the year 1948, particularly in connection with commercial transportation. Public Roads Administration reports truck registrations of 6.5 million in 1947 as compared with something under 4.5 million in 1941, while automobile registrations increased from approximately 29.5 million in 1941 to approximately 30.5 million in 1947. Coupled with the increased number of trucks was the fact that the average load was much heavier. Increased frequencies of 13, 20, and 22,000 lb. axle loads were indicated throughout the country and axle loads above 25,000 lb. and ranging up to 41,600 lb. occurred in "almost every State."

Highway engineers became greatly interested in pavement design as a result of the indicated correlation between the increase in number and magnitude of truck loads and pavement pumping. Increased use of base courses was indicated in many States where pavement pumping had become a problem and two large experimental projects were built—one in Illinois and one in New Jersey—in which continuous reinforcement was employed. The 1938 Indiana experimental project with con-

tinuous reinforcement was receiving more than average attention.

Maintenance practice operations were used in correcting pavement pumping by undersealing with bituminous materials, the use of cement-slurry mixtures, and in various types of resurfacing procedures. Snow removal was an expensive project in most of the northern States and in many of the large cities such as New York, Buffalo, Chicago, Detroit, St. Paul, and Minneapolis. Increased use of magnetic sweepers that travel over the road in

sylvania Turnpike from its present eastern terminus at Carlyle, Pa. to Philadelphia. Paving was completed on the Maine Turnpike—the longest and most costly road project in the United States since the last world war. Programs were developing in connection with express-ways for Detroit, Chicago, and several other large cities.

Research made important contributions to the highway profession in 1948. Many highway departments have established research organizations at universities and State colleges. During the past

HIGHWAYS, MOTOR VEHICLES, MOTOR FUEL CONSUMPTION, AND TAXES, BY STATES

State	State-controlled highways (1946)		Number of Motor Vehicles Registered (1947)					1947 Motor-fuel	Tax receipts (1947)		Rate per gal. (cents) 1948
	Total mileage	Surfaced mileage	Total	Public owned	Automobiles	Private owned Buses Trucks	consumption 1,000 gals.	\$1,000	per gal.		
Ala.....	7,310	7,228	492,079	8,089	359,403	3,499	121,088	434,620	25,653	6	
Ariz.....	3,807	3,301	190,919	4,875	142,945	804	42,295	195,527	9,630	5	
Ark.....	9,753	9,280	357,734	4,876	241,120	1,092	110,646	302,312	18,346	6.5	
Calif.....	13,721	13,401	3,527,128	48,028	2,992,060	7,473	478,967	3,362,318	106,638	4.5	
Colo.....	12,221	10,415	429,594	6,669	326,970	1,218	94,737	374,416	19,418	6	
Conn.....	3,114	3,111	595,769	6,118	505,277	2,580	81,794	423,626	13,795	4	
Del.....	3,809	3,081	80,690	1,188	62,711	469	16,322	78,064	3,025	4	
Fla.....	8,057	8,433	704,954	10,628	553,019	3,758	137,549	653,110	40,906	7	
Ga.....	14,282	9,744	658,306	9,771	499,600	3,684	145,251	590,965	34,969	6	
Idaho.....	5,172	4,318	195,389	4,024	140,006	222	51,137	170,000	9,838	6	
Ill.....	11,881	11,863	2,045,833	15,832	1,748,482	3,770	277,749	1,847,395	54,914	3	
Ind.....	10,430	10,425	1,160,392	9,235	950,072	8,504	192,581	969,670	36,674	4	
Iowa.....	9,716	9,684	825,361	8,576	677,829	1,196	137,760	793,632	30,665	4	
Kans.....	9,809	9,460	704,952	7,735	534,097	570	162,550	641,710	18,872	4	
Ky.....	10,384	10,353	556,572	6,875	428,423	2,813	118,461	455,241	22,358	5	
La.....	18,510	15,806	470,315	3,659	357,288	3,410	105,958	418,548	27,354	7	
Maine.....	9,896	9,703	284,465	3,523	212,232	531	68,179	200,931	10,106	6	
Md.....	4,590	4,572	544,510	4,913	445,041	3,747	90,809	420,720	18,007	5	
Mass.....	1,927	1,927	1,047,319	9,076	889,530	5,794	142,319	819,298	24,080	3	
Mich.....	9,475	9,250	1,824,958	25,380	1,597,137	1,960	200,481	1,623,835	42,544	3	
Minn.....	11,227	11,200	883,865	8,823	724,207	2,302	148,533	770,125	29,517	4	
Miss.....	6,538	6,499	359,102	6,987	239,092	3,750	109,273	335,862	19,666	6	
Mo.....	16,434	16,413	1,040,689	7,540	829,151	4,540	205,458	879,534	17,553	2	
Mont.....	8,756	7,633	198,481	5,098	131,468	734	61,181	191,745	9,222	5	
Nebrr.....	9,189	8,872	471,923	5,076	369,975	853	96,019	368,767	17,974	5	
Nev.....	5,602	3,441	58,743	1,791	44,447	175	12,330	66,485	2,538	4	
N.H.....	3,777	3,772	153,294	3,023	114,608	620	35,043	112,415	4,372	4	
N.J.....	2,136	2,013	1,233,940	13,312	1,028,389	6,013	186,232	1,030,834	29,609	3	
N.M.....	9,958	7,151	158,388	2,901	113,052	1,604	40,831	181,372	8,535	5	
N.Y.....	15,093	13,656	2,923,408	34,199	2,481,478	11,363	390,368	2,139,331	80,128	4	
N.C.....	62,194	30,383	781,502	15,268	615,574	2,857	147,703	708,509	40,604	6	
N.D.....	7,048	6,650	215,191	1,883	152,208	323	60,777	238,354	9,192	4	
Ohio.....	18,472	18,444	2,263,840	24,638	1,965,307	3,611	270,254	1,774,103	69,989	4	
Okla.....	10,138	9,361	620,572	9,496	465,686	2,312	143,078	583,735	26,142	5.5	
Ore.....	7,096	6,841	531,875	9,375	405,015	1,640	115,845	437,779	21,576	5	
Pa.....	40,929	35,074	2,392,881	26,195	1,985,275	9,180	372,231	1,816,247	71,102	4	
R.I.....	800	874	209,461	1,869	178,608	832	28,152	145,368	5,424	4	
S.C.....	15,668	8,607	456,967	7,148	356,416	2,931	90,472	351,949	20,591	6	
S.D.....	9,077	5,648	221,745	2,839	167,991	292	50,633	237,588	9,029	4	
Tenn.....	7,669	7,632	609,678	8,696	476,056	2,715	122,111	581,340	34,552	7	
Tex.....	26,821	20,048	2,052,379	28,878	1,585,645	2,035	435,821	2,297,324	82,378	4	
Utah.....	5,427	4,179	188,548	3,808	148,517	553	35,070	170,164	6,528	4	
Vt.....	1,909	1,909	108,333	864	92,599	464	14,406	65,369	3,530	4.5	
Va.....	47,164	36,046	711,453	10,762	564,676	3,019	132,996	601,377	35,713	6	
Wash.....	6,466	6,136	727,124	15,540	576,655	1,514	133,415	575,192	27,458	5	
W.Va.....	33,234	15,762	354,628	5,329	270,961	1,398	76,940	288,646	14,165	5	
Wis.....	10,392	10,392	990,126	13,189	792,891	2,603	181,443	799,664	30,575	4	
Wyo.....	4,372	4,131	102,258	2,645	73,357	511	25,745	108,384	4,245	4	
D.C.....	124	124	159,726	3,593	138,022	2,355	15,756	159,109	5,098	4	
Total.....	579,410	486,826	37,883,265	481,085	30,750,568	180,293	6,521,369	32,751,954	1,304,747	4.25	

a number of States picking up nails and other objects dangerous to tires, reached a new peak in 1948. The use of two-way radio hook-ups, particularly in connection with maintenance operations, was indicated in many States throughout the country.

The damage to roads during the spring breakup received more than average attention during the past year. The Highway Research Board established a committee to study the change in strength characteristics of pavements and subgrades as influenced by seasonal and climatical variations.

It is of interest to know that the Canadian Government will erect the world's first all-aluminum bridge across the Saguney River in Canada, and that air-entrained concrete to eliminate surface scale as a result of ice control became standard practice, particularly in the northern tier of States. Plans were being made in 1948 to extend the Penn-

sylvania Turnpike from its present eastern terminus at Carlyle, Pa. to Philadelphia. Paving was completed on the Maine Turnpike—the longest and most costly road project in the United States since the last world war. Programs were developing in connection with express-ways for Detroit, Chicago, and several other large cities.

Research made important contributions to the highway profession in 1948. Many highway departments have established research organizations at universities and State colleges. During the past year additional research units were established in several sections of the country. These activities, coupled with those of the Public Roads Administration and other governmental units, the research endeavors by industrial concerns, and materials producers, added emphasis to research development. Consideration is being given to the use of plastics for traffic signs. Purdue University has experimented with the use of plastics as center-line markers.

Drainage maps and soil maps are being constructed by the use of contact aerial photographs and large-scale experiments with lime as an admixture were initiated, both in the field in Texas and in several research laboratories. The use of rubber as an additive to bituminous-aggregate mixes was tried experimentally in Akron, Ohio, on a city street and the Michigan State Highway Department installed electric heating elements on two

sections of one of the Michigan State highways in an experiment to determine the feasibility of keeping heavily traveled highways free of ice and snow.

—KENNETH B. WOODS

ROCKEFELLER FOUNDATION. The. Chartered in 1913 for the permanent purpose of "promoting the well-being of mankind throughout the world," the Foundation is at the present time concerned with the extension and application of knowledge in certain definite fields of the medical, natural, and social sciences, the humanities, and public health. Except to a limited extent in public health the Foundation is not in general an operating organization. Its activities are confined to support of the work of other agencies—universities, laboratories, and research institutes—and to the operation of a fellowship program which aims, through postdoctoral grants to especially qualified men and women, to increase the supply of competent personnel in the various fields of knowledge.

In the field of medical science the Foundation's interest centers mainly on research in the sphere of nervous and mental diseases and on the improvement of medical education. Illustrative of the assistance given during 1948 for work along these lines are grants to Johns Hopkins University (\$100,000) for its department of psychiatry; Harvard University (\$74,880) for teaching and research in psychiatry, and (\$54,000) for investigation of dynamics of personality development; University of Oxford (\$83,025) for neurological research; Western Reserve University School of Medicine (\$70,000) for research in biochemistry related to mental diseases; University of Pennsylvania (\$100,000) and Harvard University (\$100,000) for the development of departments of dermatology in their Schools of Medicine; Meharry Medical College (\$185,000) for general support; National Health Council, Inc., (\$225,000) for expenses of a program in coordination of voluntary health agencies; Child Research Council of Denver (\$125,000) for study in child growth and development.

In the natural sciences the emphasis is chiefly on experimental biology. Among the institutions receiving grants were the California Institute of Technology (\$700,000) toward support of combined research programs in biology and chemistry; University of Wisconsin (\$100,000) for scientific equipment for a broad program of research in enzyme chemistry; Columbia University (\$82,500) for research in genetics and experimental zoology; Harvard University (\$60,000) for basic studies in chemotherapy; and for completion of the 200-inch telescope at Mt. Palomar, \$300,000 to California Institute of Technology.

Another important feature of the program in the natural sciences was assistance to certain Latin American countries in the development of agricultural research. The agricultural program of the Foundation in Mexico, which is operated in collaboration with the Mexican Government, and which is aimed at improving the volume and quality of the basic food crops of Mexico and the training of Mexican personnel, was continued through the year.

In the social sciences the special fields of interest during the year were projects contributing to the understanding of important social problems and to the development of personnel and method. Grants were made to Cornell University (\$110,000) for study of the relation of civil rights to the control of subversive activities in the United States; Columbia University (\$100,000) for support of a

program of the Institute for Urban Land Use and Housing Studies; University of Chicago, Cowles Commission (\$100,000) for research in economics; Cornell University (\$94,270) for research in field of group hostility and prejudice, using one community as a laboratory; Yale University (\$68,400) for studies of communication and the related attitude changes of persons exposed to specific communications; University of Chicago (\$45,000) for a program of research in agricultural economics; Stanford University (\$25,000) for a study of Soviet Russian Economics; University of Chicago (\$15,000) for research on the determinants of constructive union-management relations.

In the humanities the emphasis is chiefly on programs which tend to raise the general cultural level and to promote cultural interchange between countries. Among the grants made during the year were: Colegio de Mexico (\$53,000) toward support of a center for research and teaching in all aspects of Spanish and Spanish American culture, and \$10,000 for preparation of a history of modern Mexico; Korean Language Society (\$45,000) for cost of publishing five unpublished volumes of its new dictionary of the Korean language; University of Stockholm (\$50,000) for Far Eastern studies; Columbia University (\$36,246) for use by the American Press Institute in training program for German press personnel; University of Minnesota (\$25,000) for studies of Northwestern history; Cornell University (\$25,000) for support of the Division of Modern Languages; University of Wisconsin (\$15,000) for development of a state program in drama and allied arts.

The Foundation appropriated \$2,200,000 for the work in public health in 1948. From this fund sums were allocated for malaria and anopheline studies in Mexico, Colombia, Peru, Tobago, Venezuela, Corsica, and China; for yellow fever investigations in Colombia, Brazil, and Africa; for studies of rodent ecology and control at the Johns Hopkins University and for a typhus epidemiological study in Florida; for the development of divisions of state health services in Mexico and Bolivia, and of local health services in Egypt and Chile; for support of public health education at Johns Hopkins University School of Hygiene and Public Health, the University of Toronto, the University of California, the Institute of Preventive Medicine, Leiden, Netherlands, and the National School of Hygiene, Bogota, Colombia; for nursing education at Le Bon Secours School of Nursing, Geneva, Switzerland, the Helsinki College of Nursing, Finland, the University School of Nursing, Montevideo, Uruguay, and the National School of Nursing, Ceylon.

A total of \$220,000 was appropriated toward the general objective of European reconstruction. As an example of such aid is a grant of \$120,000 which is being used by the University of Chicago to send from its own staff to the University of Frankfurt six to ten professors who will serve for a semester or two and then be replaced by others.

Officers of the Foundation in 1948 were: Raymond B. Fosdick, President until June 30 (retired); Chester I. Barnard, President from July 1; Thomas B. Appleget, Vice-President; Flora M. Rhind, Secretary; Edward Robinson, Treasurer; George J. Beal, Comptroller. Headquarters: 49 West 49th St., New York 20, N.Y.

ROMAN CATHOLIC CHURCH. As Church Unity Octave was observed throughout the Catholic world, Pope Pius XII expressed hope that the United States Friendship Train, touring Italy with relief supplies

would bring a new birth of generosity that would lead all men to lasting peace. However, a few months later as a political coup tumbled Czechoslovakia into Communism's basket, tension mounted in Italy over Communist prospects in the April 18th elections, when Rome received news that Albania's Communists had executed Bishops Francis Gjini of Alessio and George Volaj of Sappa. At the same time, the Pope in his Ash Wednesday address by radio opened the Lenten campaign of 3 million United States Catholic school students in the \$5 million 1948 Bishop's Fund for Victims of War.

In France, as the Lourdes Shrine marked the 90th anniversary of the appearance of Our Lady to Bernadette, and in Ireland the new Irish Parliament with Premier John Costello, opened with a Votive Mass, the '48 Annuaire disclosed a great growth of the Church during the present Pontificate. A Negro, Indian Mission Report also showed 343,830 Catholics among 15 million colored population. A North China Survey, however, showed many Catholic schools had been closed, and many churches turned into Red Training Centers.

During March as Pope Pius XII marked his ninth coronation jubilee and 72nd birthday, religious education in the United States was hard hit when the Supreme Court, in the McCollum Case, ruled released-time classes conducted in public schools unconstitutional. During this month, Douglas Hyde, editor of the London (England) *Daily Worker* forsook Communism and with his wife and two daughters joined the Catholic Church.

In April, world attention focused on Italy and the ballot-box struggle between Christian Democrats and Communists during the general elections. The Communists were defeated. Other April events included the beatification of Christian Brother Benildus, the Centenary of the Marianite Nuns and the Daughters of Charity in China.

In May, Pope Pius issued an Encyclical urging a month's prayer to Mary for speedy, just settlement of world unrest; and Jacques Maritain, 1948 Sheil School Award recipient, resigned as French Ambassador to the Vatican, and accepted a philosophy professorship at Princeton University.

In June, Most Reverend Francis D. Gleeson, S.J., installed in Juneau as Alaska's third Bishop, took over his 590,000 square mile vicariate, and Pope Pius, in his name-day address proclaimed that in 1950 the 25th Holy Year in the Church's history will be observed. Other events during June included the acceptance of the Catholic religion by the 7 children of Borman—Hitler's missing aide and foe of the Church; the 19th missionary was slain in Indochina; the Vatican lauded Catholics in Hungary as the Church-state struggle neared a climax; a school nationalization bill was passed in Hungary—those in favor incurred excommunication.

In July, unrest was intensified in Yugoslavia, Hungary and in Italy. Despite a sharp break in relations between Moscow and Marshal Tito, Church persecution continued unabated and before the month's end Bishop Peter Cule of Mostar was sentenced to 11 years, and three priests and five nuns given terms from six months to eight years in Yugoslav prisons. Joseph Cardinal Mindszenty, Primate of Hungary, writing to a London Catholic Paper, asserted the Church was far from free in his nation. The Holy See announced diplomatic relations were established with the new state of India and appointment of Archbishop Leo P. Kierkels, C.F., as the first Papal Internuncio, with his legation at Delhi.

In August, 7 Cardinals, 40 Archbishops and Bishops, and thousands of the faithful celebrated

the 700th anniversary of the dedication of the Cologne Cathedral in Germany. The Catholic Near East Welfare Association, in this month, asked a United Nations probe of reports that Catholics were maltreated, Christian shrines desecrated in Palestine, and the third Inter-American Catholic Social Action Congress was held in Rio de Janeiro.

Tension in Communist dominated Czechoslovakia reached new heights in September following the disclosure that confidential documents came to light indicating Communist plans to besmirch and attempt to split the Church in the nation, and the publication of a pastoral by the Czech Bishops asserting opposition to the Church in their nation was being carried out according to a well organized pattern. It was also revealed that Rev. Antonin Zemek, prior of a Dominican monastery, was sentenced to 18 years in prison; others drew terms ranging from 2 to 15 years on charges that they had aided political refugees to flee from Czechoslovakia.

During this month the Vatican paid tribute to Queen Wilhelmina as she relinquished her throne. Austria's Chancellor, Dr. Leopold Figl, asserted that the Faith is the source of Austria's strength.

During October the first shipload of Europe's Displaced Persons arrived in New York under the new United States DP law. Of the 813 aboard, 523 were Catholics. The Holy See created the Karachi diocese, first in Pakistan, and Msgr. Alcuin Van Miltenburg was consecrated as its first Bishop. Pope Pius issued an Encyclical on an internationalized Jerusalem and free access to Holy Land shrines. Other events during October: Archbishop and religious remained at their posts as Tsinan, China, fell to the Communists. Pius XII Institute opened in Florence, as a gift of Myron Taylor to the Pope. Some 60,000 of 205,553 apostates in Austria returned to the Church. The Holy Father received U.S. Secretary of State Marshall and Mrs. Marshall.

In November, Bishops Stephen A. Appelhans and Leo Arkfeld of the Society of the Divine Word, were consecrated Vicars Apostolic of Eastern and Central New Guinea, respectively. War Relief Services, National Catholic Welfare Council, reported it had shipped \$15,793,000 worth of relief supplies during 1947-48. In Hungary, arrests of priests continued in the regime's war on the Church.

During December Bishop Ignatius Krause, C.M., of Shunteh, China, once imprisoned by China's Communists, visited the United States and said if the Communists succeeded to power in China, it would not mean the end of the Catholic faith in that country. Bishop Aloisius J. Muench of Fargo, Apostolic Visitor in Germany, returned to the United States and gave a generally hopeful picture of the Church's situation in Germany. Refugees reaching Vatican City reported that a new persecution of the Church had broken out in Rumania. In Japan, it was reported that Catechumens totaled 1,000 in Japan's universities. See CATHOLIC CHURCH IN THE UNITED STATES; VATICAN CITY.

—BROTHER ALEXANDER JOSEPH

ROWING. Freshman, junior varsity, and varsity eights from the University of Washington made the first sweep of the Poughkeepsie Regatta since 1937, but it remained for California, second to the Huskies in the Hudson varsity grind, to capture the year's most coveted honors—a victory in the Olympics. Surviving a series of record-breaking trials on Lake Carnegie at Princeton, California's John Stack, Justus Smith, David Brown, Lloyd Butler,

George Ahlgren, James Hardy, David Turner, Ian Turner, and Coxswain Ralph Purchase earned the right to represent the United States in England.

Harvard retained its championship of the Eastern Association of Rowing Colleges and captured its annual race with Yale on the Thames at New London, Conn., in the record time of 19 minutes 21 and four-tenths seconds. The Crimson also took the Adams Cup in a meeting with Navy and Penn on the Schuylkill at Philadelphia and the Compton Cup in a race with Princeton on Lake Carnegie.

Princeton kept the Childs Cup—oldest of rowing trophies—by leading home Penn and Columbia on Lake Carnegie and Yale annexed the Blackwell Cup in a race with Penn and Columbia on the Harlem in New York. Cambridge set a new mark of 17 minutes 50 seconds in defeating Oxford in their ninety-fourth meeting on the Thames.

Princeton's 150-pound crew visited England and brought back the Thames Challenge Cup after defeating the Royal Air Force eight in the final of the Royal Henley Regatta. The Diamond Sculls trophy, chief prize in the singles, was won by M. Wood, young Australian. Jack Kelly, Jr., who passed the defense of his title on the Thames to take part in the Olympic trials, captured the Faragut Cup in the American Henley on the Schuylkill, honors for eight-oared crews going to Yale. Kelly went on to finish first in the Olympic trials, but failed in his bid for the big singles award in the Olympic Games. See OLYMPIC GAMES.

The Buffalo West Side Rowing Club swept to its second straight club championship in the Canadian Henley at Port Dalhousie, Ontario, and Ken Nunn of the Toronto Argonauts won the singles crown.

—THOMAS V. HANEY

RUBBER. For the third consecutive year, the rubber manufacturing industry in the United States consumed more than one million tons of rubber in 1948. This was double the annual average consumption for the prewar decade and accurately reflects the tremendous growth of manufacturing operations in the postwar period.

Consumption, estimated at 1,075,000 tons of natural and synthetic rubber, was second highest in the industry's history. This figure compares with the record 1,122,000 tons used in 1947. Forecasts at the year's end within the industry were that consumption during 1949 would be approximately as large as it was in the preceding year. The high rate of rubber consumption throughout the industry was also reflected in the production of some 50,000 different end products carrying an estimated value of 3,500 million dollars.

Output of passenger tires totaled 67 million units. This was down 10 million units from 1947 but substantially ahead of 1946 production and is ahead of the 50.9 million casings produced in 1940. The latter had long stood as the greatest of the so-called normal peacetime years. Production of truck and bus tires totaled 14,700,000 units as compared with 17,754,000 units in 1947 and 15,832,000 units in 1946. The combined production of truck, bus, and passenger car tubes totaled 72 million units in 1948.

The year saw a continuation of a long-term trend toward the increased consumption of rubber in both existing products and new products. In the field of mechanical rubber goods this was particularly true. The same applies in the rapidly growing field of latex-foam products. It also prevailed to a greater or lesser extent in such other lines as rubber footwear, rubber drug sundries, hard rubber goods, rubber flooring, rubber-coated materials,

and others. Nor was there any apparent interruption in the long-term trend toward the replacement by rubber of certain competing materials such as, for example, leather, steel, and textiles in applications to footwear, containers, conveying mechanisms, and to garments and proofed fabric coverings.

The industry singled out as the most significant development of the year in the transportation field its introduction of the extra low-pressure tire, now in large-scale production. This tire is claimed by the industry's engineers to afford a greater measure of comfort and a higher degree of road safety through greater road contact than any other development in a generation.

Raw Materials. Substantial progress was made during 1948 in the rapidly growing field of man-made rubbers. A number of new polymers of the so-called GR-S type were introduced. Those placed in production proved themselves adapted to do specific jobs better than any raw materials heretofore available.

One new polymer in particular was brought into production in 1948 and by the year's end it was "the talk of the industry." This was known as the low-temperature synthetic rubber, or "cold" rubber, so-called because it is made at 41° F. as compared with preceding types of GR-S which were polymerized at much higher temperatures. Production of cold rubber at the year's end was at an annual rate of 21,000 tons. During 1949 production is being increased to a rated capacity of 183,000 tons by the extensive conversion of a number of polymerization plants. That figure would be equivalent to 47 percent of the total GR-S production in 1948. This work was authorized and is being done under the direction of the Reconstruction Finance Corporation.

Cold rubber was giving evidence in widespread tests by early 1949 of being able to outwear previous tire-tread stock rubber by as much as 30 percent. In some quarters it was hailed by the industry as the best tire-tread stock ever developed. Many of the industry's scientists promise it a brilliant future because of its high resistance to abrasion. They expect it to find wide application in certain areas of the rubber mechanical goods field, particularly in belting. At the year's end the industry's demand for cold rubber far outstripped available supply.

Consumption-wise, the year of 1948 saw natural rubber consumed in favor of synthetic rubber at the ratio of approximately 3 to 2. The industry consumed 625,000 tons of natural rubber, 450,000 tons of synthetic rubber. This was approximately 60,000 tons more of natural rubber and 110,000 tons less synthetic rubber than was consumed a year ago.

There was a hidden significance in these figures, however. It lies in the fact that in 1948 synthetic rubber consumption represented a relatively high proportion of voluntary use except for the tire, tube, and camelback makers. All segments of the rubber manufacturing industry in this country were legally freed from mandatory use of synthetic rubber by amendment to the controlling Government regulation dated Sept. 9, 1947, and officially made a part of the Government's continuing policy upon the adoption of the Rubber Act of 1948 on March 31 of that year.

Legislation. The Rubber Act of 1948 requires the rubber industry, in the interests of national security, to consume a minimum of 225,000 tons of general purpose and special purpose synthetic rubber a year. Consumption of synthetic rubber in 1948 actually doubled required or mandatory usage,

thanks in a large measure to voluntary demand for the American-made synthetic rubbers.

Far East Supply. The past year saw substantial improvement in natural rubber supply by reason of the progressive restoration of plantations and native producing areas in the Far East and particularly in the Netherlands East Indies. The natural rubber producing areas have a potential variously estimated at from 1.8 million tons to 2.1 million tons. With American-made rubber in the picture, new rubber supplies have been thus more than ample to meet the requirements of the manufacturing industry in this country and to meet, simultaneously, the schedules set up for achieving the United States Government's security stockpile objectives. As against this supply picture, world consumption of rubber was 1,735,000 tons in 1947. It has been estimated at perhaps as much as 1,900,000 tons in 1948.

Security Planning. In conformity with its long-standing policy to maintain a close working co-operation with the administrative agencies of Government, the rubber manufacturing industry, through its designated advisory committees, devoted much of its time throughout the year to the Munitions Board, Reconstruction Finance Corporation, and the National Security Resources Board in implementing the security stockpile program, in developing plans for the disposal of Government-owned synthetic rubber plants, and in drafting a blueprint for the quick and effective industrial mobilization of plant capacity in the event of a national emergency.

—RUBBER MANUFACTURERS ASSOCIATION, INC.

RUMANIA. A republic (proclaimed Dec. 30, 1947) in the Balkans. King Michael I, who ascended the throne upon the abdication of his father, Carol II, on Sept. 6, 1940, abdicated on Dec. 30, 1947.

Area and Population. The area (1946) was 92,000 sq. miles (assumed to be the 1941 area which excluded Bessarabia, Northern Bucovina and Southern Dobrodja; plus Northern Transylvania as included in the 1941 census of Hungary), and the population was 15,872 (census of Jan. 25, 1948). Chief cities (1948): București (capital), 1,041,807; Cluj, 117,915; Timișoara, 11,987; Ploști, 95,632; Brăila, 95,514; Iași, 94,075.

Vital statistics: males, 7,671,569 (48.3 percent); females, 8,201,855 (51.7 percent). Nationality: Rumanian, 13,597,613 (85.7 percent); Magyar, 1,499,851 (9.4 percent); German, 843,913 (2.2 percent). Illiterates (over the age of 7): 3,197,278 (23.1 percent). Urban population, 3,713,139 (23.4 percent); rural, 12,159,773 (76.7 percent); density, 66.8 inhabitants per sq. kilometer.

Education and Religion. Free and universal education is given "where there are schools." There were (1942-1943) 11,041 elementary schools, 716 secondary schools (1937-1938). For higher education there are universities at Bucharest, Iași, Cluj, and Timișoara. About 73 percent of the population belongs to the Greek Orthodox Church.

Production. The economic wealth rests chiefly on agriculture; 76.7 percent of the population is classified as "rural." In addition to vast forests, Rumania has large quantities of excellent oil (320,000 metric tons of crude petroleum produced in March, 1947), inexhaustible salt deposits, much coal, some iron, even gold and silver, and extensive fisheries. By far the most important source of mineral wealth lies in the oil deposits. All branches of industrial production are represented, the foremost being foodstuffs. In 1946, on 2,739 thousand hectares, 1,609,000 metric tons of wheat were produced.

Foreign Trade. In 1947, Rumania's total imports and exports amounted to \$96 million. Trade with the U.S.S.R. was \$47 million; Czechoslovakia, \$12 million; Hungary, \$6,600,000; Bulgaria, \$6,600,000; Switzerland, \$3 million; Yugoslavia, \$1,400,000; Poland, \$1,300,000; Turkey, \$1,300,000. A U.S. Commerce Department's report on general trade in 1947 showed that Rumania's exports to the United States were \$15,079,000, and imports \$435,000.

Finance. The national budget planned for the period Aug. 15, 1947, through Mar. 31, 1948, as amended on Mar. 22, 1948, was in balance, with revenue and expenditure amounting to 55,100 million lei (\$367,500,000). The official rate of exchange from August to October, 1948, was \$U.S. = 150 lei.

Transportation. In 1945 there was a total of 43,163 highway miles, including 7,499 miles of national roads, 15,940 miles of departmental roads, and 19,724 million passenger-kilometers for December, 1946, and during the same month 311 million ton-kilometers of freight traffic were handled.

Government. On King Michael's abdication on Dec. 30, 1947, his functions were taken over by a Presidium of the following five personalities: Professor Constantin Parhon, Chairman (on the ground of his seniority of years), a medical authority of world-wide repute; Mihai Sadoveanu, Chairman of the Chamber of Deputies, a brilliant novelist of peasant origin; Ștefan Voitec, Social Democratic Minister of Education; Ion Niculi, Deputy Chairman of the Chamber of Deputies; and George Sterc, Councillor of the Court of Appeals, acting as Secretary. The Presidium, legally and collectively, discharged the functions of "Head of the State." The legislative power is vested in a Chamber of Deputies (the Senate having been abolished). On Jan. 21, 1948, the National Assembly modified the electoral law which prevailed under the old Constitution. In future all citizens over 20 years of age will have the vote; parliamentary candidates must be 23 years old. "The reactionaries will forfeit their rights as electors." Any deputy expelled from his political party will simultaneously lose his mandate. "Disorderly elements, as well as the politically rotten, will thus be discarded in a determined fashion." On April 13, the National Assembly passed the new Constitution. C. Parhon was reelected President of the Presidium of the Rumanian Peoples' Republic; the Presidium has 14 members (among whom 4 are women).

Events, 1948. The announcement by Premier Groza of his intention to dissolve all that remained of his much purged Parliament in February and to hold new elections in March, marked another milestone on the road towards full Communist dictatorship. The elections, of course, came out "right," and the Communist-dominated Popular Democratic Front (which replaced the old National Democratic Front), received 90.8 percent of the votes cast on March 28, with 405 seats in the new National Assembly. The opposition won 9 seats (the dissident Liberal Party, led by George Tatarescu, 7, and the Democratic Peasant Party, led by Dr. Lupu, 2).

On January 9, the government turned over nearly all the powers of the Rumanian throne to a "High Presidium." The decree also gave Rumania a new coat of arms and a flag; the coat of arms is a tractor and three furnaces on a rising sun field; surrounded by a bundle of wheat spears tied with a ribbon and inscribed "Rumanian Popular Republic"; the flag is of blue, yellow and red vertical stripes, with the new coat of arms in the center.

That there was, however, a considerable opposition to Groza's régime was evident from the continuous purges, in spite of the formal protests of the U.S. Department of State that Rumania was failing in every respect to live up to her pledges of a democratic government stipulated in the Peace Treaty. Nevertheless, Groza was eliminating all opposition; on February 21, Social Democrats disappeared in Communist "Workers'" groups and the "Popular Democratic Front" was formed by the Workers' Party, the Plowmen's Front of Groza, the National Liberal Party and the Hungarian Popular Union. On April 13, the National Assembly adopted the new Constitution which provided for the nationalization of mines, oil, and mineral rights, transport, telegraph, telephone, and radio services. On April 22, a government decree provided that prosecutor for the so-called Popular Courts take over the system of justice corresponding to that in the U.S.S.R.; under it, the General Prosecutor will supervise the "prosecution and punishment of those who commit crimes against the democratic order and liberties, against the economic interests, the national independence and sovereignty of the Rumanian state." On April 16, the Ministry of Mines and Petrol clamped down on the Romãno Americano, Rumanian subsidiary of the Standard Oil Company of New Jersey, and appointed a supervising administrator: similar action was taken against the Shell Oil and Phoenix Transport (two British subsidiaries) in December, 1947. Currency reform stripped property owners, merchants, peasants, and factory workers alike of their savings. Before the reevaluation of currency one American dollar was worth 3 million Rumanian Lei; the new rate was pegged at one for 140. Citizens were ordered to exchange all their old money—but in the banks all persons got back only 3 million Lei, the actual equivalent of one dollar. The rest was held by the government "for safekeeping." This maneuver was timed just after most farmers had sold their autumn crops. On May 14, the government decided upon a state monopoly of foreign trade. Thereafter, the government intensified the nationalization of all industrial, mining, banking, insurance, and transport companies, and started taking steps for the collectivization of agriculture.

In foreign affairs, Rumania was integrated in the Soviet net of alliances. On January 16 the Rumanian-Bulgarian Treaty of Friendship, Collaboration and Mutual Aid, and a special protocol for economic collaboration were signed by Premiers Dimitrov and Groza. On January 24, Rumania and Hungary signed a twenty-year Friendship and Military Treaty; on February 5, a Friendship and Mutual Aid Treaty was signed with the U.S.S.R.; a similar treaty was signed with Czechoslovakia on July 21. On July 17, the government denounced the Concordat with the Vatican (concluded on June 12, 1929). On March 6, the Rumanian National Committee for Aid to the Greek People decided to bring 3,000 Greek children to Rumania from areas "liberated by the Democratic forces." After Tito's break with the Cominform, Bucharest became the headquarters of that organization, and Groza's government, like the other satellite states, carried on political and economic warfare against the Marshal. On May 30, Radio Romãnia said that the rehabilitation of Rumania had only been possible thanks to Soviet generosity since 95 percent of the cotton and wool used in the textile industry had come from the U.S.S.R. In June, at the request of Groza's government, Stalin reduced Rumania's reparations by 50 percent (as of July 1). On August 25, the Ministry of National Education

made the study of the Russian language compulsory in all schools. On September 10, a new Rumanian-Polish convention for economic cooperation and a trade agreement were signed. On December 11, the State Department disclosed that Col. John R. Lovell, Military Attaché, and Henry P. Leverich, Counselor of the American Legation in Rumania, had been ousted from that country for alleged plotting against the Rumanian government. Simultaneously, the State Department revealed that it had asked the Rumanian government to recall "as soon as possible" Grigore Preoteasa, Minister Counselor, and Alexandru Lazareanu, Counselor, of the Rumanian Legation in the United States. At the same time, Bucharest carried on an anti-Catholic campaign. On September 18, a governmental decree fixed the number of bishoprics: Rumanian Orthodox Church 17, Greek Catholic Church 2, Rumanian Catholic 2, Protestant Church 1, and the Old Christian Church 1. At the end of September, a meeting of 38 delegates representing 450 Transylvanian Greek Catholic priests decided to return to Orthodox Church; on Oct. 21 "the reintegration" ceremony of the Greek Catholics in the Rumanian Orthodox Church took place in spite of the protests of the Vatican.

—JOSEPH S. ROUCEK

RURAL ELECTRIFICATION ADMINISTRATION (REA). Administrator: Claude R. Wickard. Address: Washington 25, D.C. REA, an agency of the Department of Agriculture since July 1, 1939, was created by executive order of the President (May 11, 1935) under the Emergency Relief Appropriation Act of 1935. The Rural Electrification Act of 1936 provided a legislative basis.

REA lends funds for providing central station electric service to unserved farmsteads and other rural establishments. It gives preference to applications from cooperatives and other non-profit groups. Loans are authorized for construction and operation of distribution systems, generating plants, transmission lines, and for the financing and installation by consumers of plumbing, wiring, and electrical equipment and appliances. All REA loans bear two percent interest, and are amortized over a maximum period of 35 years.

More than 95 percent of REA loans have been made to cooperatives owned and operated by the people they serve. Their elected officials are chosen by and from the membership. They are non-profit organizations. Since its inception, REA has received authorization to lend a total of \$1,875,428,288, including \$400 million for the fiscal year 1949.

As of Oct. 1, 1948, REA had approved loans of \$1,468,802,761 to 1,040 borrowers. These included 954 cooperatives, 42 public power districts, 22 other public bodies, and 22 commercial power companies. Of the total loans approved, \$1,024,233,450 had been advanced to borrowers, as they needed funds to meet costs of finished construction. Some 938 borrowers had facilities in operation. These included 692,195 miles of line serving 2,354,381 farms and other rural consumers in more than 2,500 of the Nation's 2,900 counties, in 46 States, Alaska, and the Virgin Islands. In the summer and autumn of 1948, consumer-connections on REA-financed lines were progressing at the average rate of 40,000 a month, the largest in REA history.

REA approved loans totaling \$313,023,099 during the fiscal year 1948, the greatest volume in any fiscal year since REA was established. These funds will enable borrowers to build more than 120,000 miles of new lines and other facilities to serve

about 364,000 new consumers. REA had on hand a backlog of more than \$363 million in loan applications when the fiscal year 1948 ended, the largest in REA history.

Since establishment of REA, farm electrification in the Nation increased from 743,954, or 10.9 percent, to 4,019,476, or 68.6 percent, by the end of the fiscal year 1948. Of the 3,275,522 farms receiving electric service since 1935, more than 53 percent are served by REA-financed systems. REA estimated at the end of the fiscal year 1948 that about 1,840,000 farms, plus many non-farm units, remain to be electrified.

RUSSIAN LITERATURE. Stalin Prizes. In 1948, as in the preceding two years, the announcement of Stalin Prizes for the best works in prose, poetry, and drama represented the major event of Soviet literary life. The first prize of 100,000 rubles was awarded to three novels: *White Birch*, a large war epic by the young Michael Bubennov who tried to show how the reverses of 1941 had tempered and strengthened men and officers of a Red infantry regiment; *Happiness*, a talented, in parts brilliant picture of the postwar reconstruction in the Crimea with some interesting details on the Yalta Conference by Petr Pavlenko, a prominent Soviet writer whose novel about the imminent war with Japan (*Red Planes Fly East*) was translated into English in 1938; and *The Storm* by the well known Ilya Ehrenburg, a full length novel built on two planes: its descriptions of the fall of France and of the German occupation of Paris alternate with panoramic scenes of the Russian struggle against the Nazi invaders. Written in a snappy, biting style *The Storm* compares the corruption and weakness of the "declining West" to the self-sacrificing and vigorous attitude of Soviet citizens. *Happiness* and *The Storm* were both widely read and discussed, they were the best-sellers of last year.

The six second prizes (of 50,000 rubles each) went to the Ukrainian Alexander Gontchar for his *Standard-Bearers* (Red troops in Europe); to Emmanuel Kazakevich for his pathetic novelette *The Star* (tragic adventures of an intelligence platoon); to Valentin Kostylev for his impressive historical trilogy *Ivan the Terrible*; to Berdy Kerbabaev, native of Turkmenistan whose large novel *The Decisive Step* describes the civil war at the beginning of the revolution in Central Asia; to Fedor Panferov, author of a novel on war and reconstruction entitled *The Fight For Peace*; to Vera Panova, for her novel *Kruzhilikha*—a description of a steel factory during the war. V. Panova, a young and promising writer, won a wide popularity after the publication of her first novel, *The Companions* in 1946; *Kruzhilikha*, despite its flaws, is written with deep psychological insight and a sensitive, humanitarian approach to life.

Other Fiction. The Soviet prose of 1948 could be roughly divided into two main sections: war novels and novels of reconstruction. Descriptions of the "struggle for the fatherland" are published in large numbers. Most of them, composed and written according to an already established pattern, hardly present any literary interest though sometimes they have some value as historical documents.

Only a few rise above the average: Victor Avdeiev's *Herds on the Road* (evacuation of the cattle on the steppe of southern Russia); Pavel Shebunin's *Mamaev Hill* (a dramatic panorama of the battle for Stalingrad); Alexander Perventsev's *Stick to your Honor when Young* (a description of the warfare in the Cossack regions of the Caucasus and in the Crimea).

Two novels by women writers deal with the sufferings and the heroic resistance of Leningrad's population: *The Siege* by Vera Ketlinskaya (Third Stalin prize) and *The Stojarov Family* by Elena Katerli. A new novel by Fedor Panferov *The Land of the Vanquished* is a badly written thriller about beautiful Russian spies and shrewd intelligence men working for the Soviets in the German rear.

Novels on postwar reconstruction are mostly devoted to the farmers. Life in kolkhozes (collective farms) and various agricultural or political problems facing the returning veterans are dealt with in the widely discussed novel by Semen Babaevski *The Knight of the Golden Star* (the farmers of Kuban). This theme recurs in novels of lesser stature such as *Stone Wood* by Gennadi Fish and *Our Land* by Sergei Voronin (both books describe the farmers of Karelia) or in the long story of northern peasants *From All Our Heart* by Elizaveta Malzev.

The industrial reconstruction and the new Five-year plan also find their reflection in literature: Vassili Ajaev in his highly praised novel *Far Away From Moscow* describes with many details the building of a pipe line in the extreme north of Siberia. Michael Chakovski draws portraits of veterans who attempt to readjust themselves to factory work (*Days of Peace*).

A special place is occupied by a group of books devoted to the Russian North—a beloved subject-matter of Soviet fiction. Representative of this trend in 1948 are the Tchuktchi novel by Tikhon Semushkin *Alitet Retires to the Mountains* and Ivan Kratt's *Tales of the Arctic*. Other novels worth mentioning are: *The University* (student life in a provincial university town) by Grigori Kononov; *Three in Greatcoats* (veterans in college) by Victor Dobrovolski; and *Prospectors* by Vassili Gannebesov (an exotic picture of Siberian gold mines).

Historical Novels. Historical novels continued to form a large segment of Soviet fiction. Konstantin Fedin, one of the most distinguished writers of the U.S.S.R., completed (in 1948) his highly literary and whimsical novel *The Unusual Summer* (life in a Volga town before, and in the first years of the revolution). Novels on tsarist military leaders had considerable success: *General Suworov* by Leonti Rakovski, *Prince Potemkin* by Marianna Yakhontova, *The Storming of Izmail* by Boris Paparigopolo (blamed by Soviet critics for his "superficiality").

Special mention should be given to the *History of a Stolen Idea* by Yuri Veber who tells the life of A. S. Popov and his discovery of wireless telegraphy, later exploited by Marconi. In general, the desire to prove the independence of Russian science and literature originated a series of novels and tales portraying obscure inventors and forgotten scientists.

Poetry. Although the number of poems published in book form or in various monthlies was as large in 1948 as in previous years, no outstanding work of poetry can be mentioned. Only two Stalin prizes for poetry were awarded to Russian language poets: Alexei Nedogonov, who wrote a long-winded narrative epic *The Flag Over the Village Soviet* and died soon after its completion; and Nikolai Gribachev, author of war poems and patriotic stanzas.

The other four prize winners were the Ukrainian Vladimir Sossura, the Byelorussian Maxim Tank, the Latvian Jan Sudrabkalk, and the native of Tadzhikistan (Central Asia) Mirzo Tursun Zade, whose poems on India are widely read by Moslems. One of the most popular poets of the U.S.S.R., Konstantin Simonov, published a book of political poems *Friends and Foes* inspired by his travels in Can-

ada, the United States, Great Britain, and Japan. The sharp satirical tendency of these poems discloses the desire of their author to revive the tradition of the great Soviet poet Mayakovsky.

Drama. Next to numerous revivals of plays by 19th century writers such as Ostrovski, Turgenev, and Chekhov, a large number of comedies and dramas by contemporary playwrights have been produced in 1948, in Moscow as well as in the capitals of the 16 Soviet Republics. Leading place in new productions was occupied by adaptations of novels, mostly of the latest best-sellers such as *The Young Guard* by Alexander Fadeyev (also made into a film), *Companions* by Vera Panova, *Men with Clean Conscience* (the guerilla warfare) by Petr Vershigora, and others.

Among original plays the most successful were: *The Great Strength* by Boris Romashov, an exposure of Soviet scientists guilty of "kow-towing to the decadent West"; *Our Daily Bread* by Nicolas Wirta, a description of a collective farm administered by women; *A Certain Town* by Anatoli Sofronov who ridicules the excesses of Soviet bureaucracy; *The Last Borders* by Yuri Chepurin, describing the Red Army in Europe and sharply criticizing the Americans; *On Our Soil* by Olga Bergholz and Grigori Makogonenko, giving a picture of life in a steel plant; *Makar Dubrava* by the popular playwright Alexander Korneichuk who glorifies an old miner, a faithful militant of his class. A score of dramas were devoted to war topics.

Memoirs and Essays. Most memoirs dealt with the events of World War II. Both Ivan Kozlov's *In The Crimean Underground*—describing the fight against the Germans in occupied Crimea—and the much-discussed *Transport Ship 'Kachetia'* by Olga Dzigurda—an Army surgeon who made a colorful report on her war adventures—were well received by critics and readers. So were Yuri Jukov's *The West After The War* and *The Second Front* by Dimitri Kraminov who had been attached to Allied Headquarters in 1943–45.

The centenary of the death of Vissarion Belinski, the great Russian critic, was marked by a series of books, essays, and articles; much attention was also devoted by the Soviet press to the 500th anniversary of the Uzbek poet Alisher Navoi, whose works are among the classics of the Near East. In general, the development of national cultures in the Republics of the Union is highly promoted by the government and various literary organizations. As in previous years great activity prevailed in the major Russian publishing houses. Among the numerous works of Soviet scholars the remarkable critical editions of collected works of Chekhov and Lermontov should be mentioned.

—MARC SLONIM

RYE. The 1948 rye crop of the United States was estimated at 26,388,000 bushels compared with the 1947 crop of 25,975,000 bu. and the 10-year average (1937–46) of 37,398,000 bu. Yields of the principal producing States were (in bushels): South Dakota 4,704,000, North Dakota 4,656,000, Minnesota 3,466,000, Nebraska 2,250,000, Michigan 1,280,000, Wisconsin 1,104,000, Illinois 946,000, Indiana 928,000.

World production of rye for 1948 was estimated at 1,625 million bu., compared with the 1947 output of 1,490 million bu. and the 5-year average (1935–39) of 1,730 million bu. Yields of the chief producing countries for 1948 were (in bushels): U.S.S.R. (Europe and Asia) 920,000,000 (in 1947), United States 26,388,000, Canada 25,348,000,

France 24,200,000, Spain 20,000,000, Argentina 16,000,000, Denmark 15,500,000, Turkey 15,500,000, Netherlands 14,860,000, Austria 14,000,000, Sweden 12,500,000, Belgium 9,500,000.

RYUKYU (Loosho) ISLANDS. A chain of islands reaching from the Japanese main island of Kyushu to near northern Formosa. The islands were completely occupied by the armed forces of the United States following the surrender of Japan in September, 1945. Area: 921 square miles. Population: 600,000 (estimated). Capital: Naha, on Okinawa—the largest island in the group.

ST. HELENA. A colony belonging to Great Britain, in the South Atlantic about 1,200 miles west of the African coast. It comprises the island of St. Helena (47 sq. mi.) and its dependencies—the islands of Ascension (34 sq. mi.), 700 miles northwest of St. Helena, and the smaller Tristan da Cunha group, about half-way between the tip of Africa and South America. Population of St. Helena (1946 census): 4,748. Capital: Jamestown. The area under cultivation on St. Helena amounts to some 8,000 acres. Agricultural products include flax and potatoes. Foreign trade (1946): imports £94,375; exports £31,790. Finance (1946): revenue £98,591; expenditure £88,822. The colony is administered by an executive council comprising the governor and 5 official members. An advisory council of 6 unofficial members assists the governor. Tristan da Cunha has an important meteorological and radio station. Governor: G. A. Joy.

ST. LUCIA. An island colony in the British Windward Islands group of the West Indies. Area: 233 square miles. Population (1946 est.): 69,091. Chief town: Castries. Capital: 12,000 inhabitants. Primary education is free and compulsory. The principal products comprise sugar, cocoa, lime juice and oil, bay rum and oil, honey, rum, hides, coconuts, copra, and fruits. Foreign trade (1946): imports were valued at £503,765; exports £172,452. Finance (1946): revenue £394,884; expenditure £311,831; public debt £51,510. An administrator governs the colony. He is assisted by a nominated executive council and by a legislative council made up of elected and nominated members. Administrator: John M. Stow.

ST. PIERRE AND MIQUELON. An overseas territory of France, comprising two small groups of islands near the south shore of Newfoundland, as follows: St. Pierre group (area: 10 sq. mi.; pop. 3,804 in 1946), and Miquelon group (area: 83 sq. mi.; pop. 550). Total area: 93 square miles. Total population: 4,186. Capital: St. Pierre. The chief industry is fishing. Foreign trade (1946): imports 89,100,000 francs; exports 59,600,000 francs. In the general government of the territory the administrator is assisted by an elected general council and an executive council. The islands are represented in the French National Assembly, the Council of the Republic, and the French Union by one deputy in each.

SAKHALIN. An island northeast of Japan, in the Sea of Okhotsk. Area, 28,597 square miles. The southern part (south of 50° N.) was under Japanese control from 1905 when it was ceded by Russia in the Treaty of Portsmouth until the surrender of Japan in 1945 when it was returned to the U.S.S.R.

SALVATION ARMY. The. A religious and welfare organization with a military government established

in England in 1865 by William Booth, a Methodist evangelist. Introduced into America in 1880, it now operates in 97 countries throughout the world. Primarily an evangelical movement, its objects are: the spiritual, moral, and physical reformation of all those who need it; the reclamation of the vicious, criminal, dissolute, and degraded; visitation of the poor and sick; the preaching of the Gospel and dissemination of Christian truth.

Its social service program in the United States includes children's homes and hospitals, men's industrial homes, maternity homes and hospitals, family welfare, a vast prison program, youth centers, summer camps, etc. Relief teams are working in European reconstruction, emphasis being put on work among women and children.

Total affiliated world membership is over 4 million; that of the United States, 205,881. Five thousand officers and 96,483 bandmen and lay members carry on its work in 2,544 centers of operation in all parts of the country. International Commander, General Albert Orsborn, London. National Commander in the United States, Commissioner Ernest I. Pugmire, National Headquarters: 120-130 West 14th St., New York 11, N.Y.

SAMOA, American. American Samoa includes the island of Tutuila on which the U.S. Naval Station is located; the Manua group, consisting of the islands of Tau, Olosega, Anauu, and Ofu; Rose Island; and Swains Island. These islands, with the exception of Swains Island, were acquired by the United States on Dec. 2, 1899, through a tripartite agreement with Great Britain and Germany. By joint resolution of Congress, approved Mar. 4, 1925, Swains Island was annexed to American Samoa. All but Rose Island, which is an uninhabited coral atoll, are of volcanic formation. The total area is 76 square miles and the population, as of July 1, 1948, was 18,080, mainly Polynesian. The seat of government is at the village of Pago Pago, Tutuila, which has one of the finest harbors in the South Seas.

Education. During the year ending June 30, 1946, instruction was offered by 45 public and 8 private schools having a total enrollment of 4,548 and employing 123 Samoan teachers, 24 non-Samoan teachers, and 2 Samoan principals. Attendance is compulsory for children between the ages of 7 and 15. English is used in public schools. Illiteracy in 1940 was lower than any other U.S. possession—6.3 percent.

Production. Copra, the most important crop for commercial sale, produced a gross income of \$280,600 for the fiscal year 1948. The Department of Samoan Industry, established in April, 1946, to encourage the production of Samoan handicraft, reported sales amounting to \$58,196.37 for the 1947 fiscal year. An experimental and dairy farm is maintained for the improvement of Samoan agriculture and animal husbandry. For the year ending June 30, 1948, the Bank of Samoa reported resources of \$1,786,964.

Government. American Samoa, classified as a United States possession, is under the control of the Navy Department and is administered by a Naval Governor. Samoans are not citizens of the United States but owe allegiance to the American flag as nationals of the United States. While the Constitution of the United States does not extend to American Samoa, the Regulations and Orders for the Government of American Samoa, printed in both English and Samoan languages, contain most of the guarantees of the Bill of Rights of the United States Constitution. Local administrative matters are con-

ducted by village, county and district councils composed of hereditary chiefs and their advisors. The Chief Samoan legislative council, or Fono, meets annually and serves in an advisory capacity to the Governor in matters relating to the welfare of American Samoa (See *Events* below). For purposes of local administration American Samoa is divided into three districts each having a Samoan governor. The judicial power is vested in Village Courts each presided over by a village magistrate; six District Courts each presided over by a Samoan District Judge and a United States civilian judge; and a High Court presided over by a United States civilian Chief Justice and two Samoan Associate Justices selected from the District Judges. Captain Vernon Huber, U.S.N., the present Governor of American Samoa and Commandant of the Naval Station, Tutuila, assumed office Apr. 21, 1947.

Events in 1948. In 1948 the Annual Fono of American Samoa, heretofore a unicameral, advisory legislative council, was succeeded by a bicameral body with limited legislative powers designated "the Fono" (council). The new Fono which was organized in accordance with the wishes of the Samoan people consists of the House of Alii with a membership of 12 chiefs holding hereditary titles and the House of Representatives with a membership of 54 representing all elements of the Samoan people.

The first regular meeting of the reorganized Fono was convened on Jan. 11, 1949. In 1948 the consolidated High School of American Samoa and the Vocational School of American Samoa were approved by the Veterans Administration for attendance by veterans receiving Federal educational benefits. A schedule of weekly round-trip plane flights between American Samoa and Honolulu was instituted in 1948 for the transportation of passengers and freight.

During 1948 five bills to provide an organic act for American Samoa and United States citizenship for the inhabitants thereof were pending before the Congress of the United States but no action was taken thereon. Plans were realized in 1948 to establish in American Samoa a plant to process fish and other products of the waters surrounding the islands.

SAMOA, Western. A United Nations Trust Territory, comprising a group of islands in the Pacific (West of 171° W.), administered by New Zealand. The two largest islands are Savaii (700 sq. mi.) and Upolu (430 sq. mi.). Total area: 1,133 square miles. Population (June 30, 1947): 71,905, of whom 393 were Europeans, 5,043 part Europeans, and 66,101 native Polynesians. Capital: Apia (on Upolu). The chief export products are copra (18,181 tons in 1947), cacao (2,378 tons), and bananas (101,754 cases).

Trade and Finance. Imports were valued at £923,773 in 1947; exports at £1,351,770. The copra export amounted to £722,272; cacao, £448,794; bananas, £70,317. The 1947-48 estimated budget placed revenue at £548,682 and expenditure at £359,285. A total of 127 vessels (89,051 tons) entered the port of Apia in 1946.

Government. An administrator heads the government and is assisted by an elected native council to advise him on native affairs. There is also a legislative council consisting of 6 official members, 2 elected European unofficial members, and 4 nominated native members. Administrator: Lt. Col. F. W. Voelcker (appointed Feb. 27, 1946).

Events, 1948. In December, 1948, the United Nations Trusteeship Council gave unanimous support to proposals introduced by New Zealand for in-

creased self-government in Western Samoa. The program called for a high commissioner to replace the present office of administrator; the establishment of a council of state; and establishment of a legislative assembly to replace the legislative Council. New Zealand proposed to continue control over defense, foreign affairs, and crown lands.

SANITATION. An important step in the progress of sanitation in the United States was taken this year when the new Water Pollution Control Act (Public Law 845) was passed. It empowers the Federal Government "to enforce abatement of any pollution that creates a health or welfare hazard beyond the borders of the State where it originates." Thus both municipalities or sanitary districts and industries are under the jurisdiction of the enforcing agents of the Federal Government if they discharge wastes into waters, that cross State boundaries, to such an extent as to endanger the health or welfare of the neighboring State.

The Surgeon General of U.S. Public Health Service, the Federal Security Administrator (Head of the executive branch which includes the Public Health Service), and finally the Attorney General are assigned specific tasks of enforcement under the law—the latter to bring suit if necessary.

Another important feature of the law is to offer to the States technical and financial assistance to encourage pollution abatement and the Congress was expected to appropriate \$25 million for the first year of an authorized 5-year program.

It was stated that in the administration of the law "All water uses of each stream will be considered and the treatment recommended will be based upon these uses. Due regard will be taken of the health, welfare, and economic considerations of the particular situation upon national welfare."

Another significant step in the progress of stream pollution control was taken when the Ohio River Sanitation Pact was signed. This is a venture in interstate cooperation rather than in Federal control. Executives from the States of Indiana, West Virginia, Ohio, New York, Kentucky, Pennsylvania, and Virginia participated in a ceremony of signing the compact. A commission is set up consisting of three representatives for each State and three Federal representatives. This commission is authorized to aid State or local bodies on specific problems of waste disposal and are to order municipalities, corporations, or individuals to cease or correct such pollution of streams as they may be causing. Despite the undoubted progress that is being made in the general area of sanitation, it is well to note that the need for this improvement is very great.

Professor Abel Wolman of Johns Hopkins University, a prominent sanitary engineer, has just warned that sanitary conditions in this country are in many respects worse than they were 100 years ago; 6,000 communities still have no water systems, 70 million persons in 8,300 communities require modern refuse disposal, and he doubts that there is a single stream in the United States which has not deteriorated since 1849 and air pollution is immeasurably worse than it was in years gone by. Of course population density has greatly increased in 100 years but Dr. Wolman contends that sanitation has not kept pace with that expansion.

The value of sewerage and sewage treatment construction in 1948 is estimated by the *Engineering-News-Record* to be \$226 million, an increase in dollar value over that of 1947 of 29 percent, but because of the decrease in the value of the dollar, this results in an increase in actual volume of

construction of only about half of this percentage.

Among the new methods of sewage treatment which have continued to be tested this year is step aeration, a modification of the activated sludge process in which the effluent from the primary tank is introduced in regulated amounts at various points along the course of flow of the activated sludge. Improvements over the conventional design are claimed on the basis of tests performed at the Bowery Bay plant in New York City. The new procedure will be incorporated in the design of the new Tallman's Island plant at New York City.

Synthetic detergents now coming into use in increasing amounts have been found to affect sewage-treatment processes but are not toxic to biological activities. Replacing soap, they reduce B.O.D. (bio-chemical oxygen demand) of raw sewage, decrease removals in settling tanks and improve settling qualities of certain sludges, and increase foaming of activated sludge tanks. (A 5-ft. blanket of foam on the activated sludge tanks of Mt. Penn, Pa., formed as a result of the distribution of trial samples of a liquid synthetic detergent.)

Of first-rate importance in the days just ahead, is the disposal of radio-active waste products, both gaseous and solid. Sanitary engineers have been employed by the Atomic Energy Commission to study the many problems and a small group of sanitary engineers in various Federal agencies are being trained in nuclear physics at Oak Ridge and Los Alamos to be able to advise on this new disposal problem.

Among the new sewage plans appearing in the news of 1948 are an \$11 million project for enlargement of the sewage system, construction of intercepting sewers, and treatment plant for Tampa, Fla. Bids will be opened in January, 1949.

In New York City, construction was resumed on the 60 million gals. per day Twenty-Sixth Ward Plant in Brooklyn. Plans were completed early in the year for \$80 million worth of work on the 100 million gals. per day Owl's Head plant, also in Brooklyn. While there is much still to be done in New York City to alleviate pollution conditions, it is believed by those in charge of the sewage treatment program that the city is progressively becoming conscious of the need for so doing.

In Philadelphia, primary treatment is given to about 60 million gals. per day which is only 19 percent of the dry weather sewage flow. Contracts for additions to the plant had been let at the beginning of the year to the amount of \$37 million. Sites for the two additional plants had been acquired. Construction on these plants is planned to start in 1949.

Plans have been made to reduce pollution of the Merrimac River in Massachusetts by the construction of intercepting sewers and several regional sewage treatment plants: an activated sludge plant for the Lowell metropolitan region and one for the Lawrence metropolitan region; and sewage treatment plants for the Haverhill metropolitan region, one at Amesbury, at Newburyport, and one at Salisbury. The total estimated costs of plants is \$27.6 million.

In the field of garbage disposal, it is interesting to note that the City of Winnipeg has completed a new refuse incinerator to handle 300 tons per day of garbage and refuse mixture. It cost \$652,000 and has been tested and found to meet its guarantee of performance. There are three furnaces of 100-tons per day capacity and a chimney capable of accommodating a fourth furnace as well.

The Chicago Sanitary District approved in 1947 a \$22 million interceptor now under construction.

Los Angeles is building the Hyperion 225-million gals. per day activated sludge project with a 5,000-ft. long, 72-inch reinforced concrete ocean outfall. San Francisco is building a very large sludge sedimentation and sewage disposal plant and has approved a \$15 million bond issue for the purpose. Indianapolis has approved a \$3.8 million bond issue for sewer relief. Houston, Tex., has approved a \$2.8 million bond issue for storm sewers.

Studies for the disposal of activated sludge at Houston indicate the superior economy of dewatering, drying, and manufacture into fertilizer. In Allegheny County, Pa., a most unusual proposal has been made for the construction of 4 huge interceptors in the river beds to lessen the cost of sewer construction by avoiding expensive excavation through city streets. Orlando, Fla., has begun construction on a \$3.5 million sewage treatment plant. East St. Louis is planning to spend \$6 million on improvements of her sewer system.

A de-silting project for the Schuylkill River in Pennsylvania is under consideration and will cost \$35 million. The Indiana Stream Pollution Control Board has estimated that \$47 million for new sewage plants in Indiana are now in the planning stage. The States of Washington and Idaho have 36 sewage disposal projects "ready to go."

Air pollution has received public attention by the smog catastrophe at Donora, Pa., in which 20 lives were lost. Smoke control studies at Los Angeles have been under way for more than a year. Smoke control regulations are being discussed in the press for Indianapolis. A model smoke-abatement ordinance has been passed in Kansas City, Mo. Similar developments are under way at many other places.

Industrial wastes and their treatment are receiving increasing attention as evidenced by the many papers published on this subject. The Fourth Annual Industrial Waste Conference held at Purdue University this year attracted 320 registrants from the entire United States. Of especial interest were the reports on new developments in anaerobic digestion as a means of disposal of milk wastes, distillery wastes, and canning wastes; a new process for coagulation of oil wastes was also announced.

Significant progress was made in the control of the insect-borne diseases of malaria and typhus. Death rates from malaria are now one-fifteenth of what they were in 1920. The engineers of TVA (Tennessee Valley Authority) have announced methods, which have proved entirely successful, for control of mosquitoes by management of fluctuating water levels in their reservoirs. This new procedure has helped to reduce malaria in that region almost to the vanishing point.

The use of DDT in rat burrows and other places frequented by these rodents—to control their fleas in addition to the conventional methods for control of the rodents themselves—has helped to control typhus, particularly in the State of Georgia where the incidence of this disease has been reduced by 61 percent in 1947 over that of 1945. An effective rat poison "Castrix" has been announced. DDT has also proved effective in the control of the mosquito and consequently of malaria in many places.

—W. E. HOWLAND

SAN MARINO. An independent republic in Italy, near the town of Rimini. Area: 38 square miles. Population (1947 census): 12,100. Capital: San Marino. Chief exports: cattle, wine, building stone. Financial estimates (1947) were balanced at approximately 330 million lire. The legislative power

is in the hands of the grand council of 60 members elected by popular vote. Two are appointed from this council every six months to act as regents. Executive power is in the hands of the regents, assisted by various nominated congresses.

SÃO THOMÉ and PRINCIPE. A Portuguese province comprising two volcanic islands in the Gulf of Guinea, 125 miles from the coast of Africa. They have an area of 372 square miles and a population (1940) of 60,490 (of which 56,666 were Negroes). São Thomé is by far the larger and more important of the two, and also accounts for about nine-tenths of the total population. Despite their small size the islands produce large amounts of cacao, as well as some coffee, copra, and palm oil. Trade (1946): imports 52,998,737 escudos; exports 122,139,883 escudos. Finance (1946): revenue 25,682,000 escudos; expenditure 24,561,000 escudos. Public debt (1946): 2,102,000 escudos. The administration is headed by a governor.

SARAWAK. A British crown colony on the northwest coast of the island of Borneo. Area: about 50,000 square miles. Population (1947 est.): 500,000, including Malays, Dyaks, Milanaus, Kayans, Kenyahs, Muruts, and other indigenous peoples, together with Chinese and other settlers. Schools are conducted by the Church of England, Roman Catholic, American Methodist and various other missions in the country. Capital: Kuching (pop. 38,247). The principal agricultural products are sago, rice, pepper, and rubber. Mineral products include coal, petroleum, rubber, diamonds, and gold. Foreign trade (1947): imports \$572,254,705; exports \$5103,138,575. Most of the trade is with Singapore. The estimated revenue for April to December, 1947, was £757,268; estimated expenditure £1,294,692.

Sarawak became a British crown colony on July 15, 1946, through an agreement between the then ruling Rajah, Sir Charles Vyner Brooke, and the British government. The Council Negri had previously authorized the Act of Cession by 19 to 16 votes. Governor: Sir Charles N. A. Clarke.

SASKATCHEWAN. A prairie province of western Canada, lying between Manitoba on the east and Alberta on the west. Area: 251,700 square miles, including 13,725 square miles of fresh water areas. Population: 895,992 (1941 census), compared with 854,000 (1948 estimate). Leading religious denominations (1941 census) were: Roman Catholic 243,734, United Church 230,495, Anglican 117,674, Lutheran 104,717, and Presbyterian 54,856. In 1946 there were 21,433 live births, 6,422 deaths, and 8,279 marriages. Education (1945-46): 207,696 students enrolled in schools and colleges. Chief cities: Regina (capital): 60,246 (1946 census), Saskatoon 46,028, Moose Jaw 23,069, Prince Albert 14,532.

Production. The gross value of agricultural production for 1947 was \$440,610,000. The value of field crops (1947) was \$342,753,000 from 22,892,000 acres. Chief field crops (1947): wheat 173 million bu. (\$229,500,000), oats 80 million bu. (\$58,400,000), barley 45 million bu. (\$46,800,000), rye 6,780,000 bu. (\$21,967,000), flaxseed 4,200,000 bu. (\$21,924,000). Livestock (June 1, 1947): 1,511,300 cattle (\$113,658,000), 504,900 horses (\$22,860,000), 558,300 swine (\$11,941,000), 285,300 sheep (\$2,810,000), 13,534,100 poultry (\$12,547,000). Fur production (1946-47): \$2,303,554. There was a total of 467 fur farms in 1946, with animals in captivity valued at \$1,357,-

211. The marketed value of fisheries (1946) was \$1,148,886. Dairy products (1947) included about 36,330,000 lb. of creamery butter valued at \$18,892,000; poultry meat and eggs, \$21,961,000; honey (6,232,000 lb.), \$1,558,000.

There were 955 industrial plants in 1946 reporting a combined output of \$168,356,619; 11,957 employees who received salaries and wages totaling \$17,956,317; cost of materials used amounted to \$126,595,761. Slaughtering and meatpacking was the leading industry, followed by flour and feed mills, butter and cheese, and petroleum products.

Government. Finance (year ended Apr. 30, 1947): net combined revenue \$39,406,666; net combined expenditure \$39,527,696; total direct and indirect liabilities (less sinking funds) \$187,672,970 on Jan. 31, 1947. The executive authority is vested in a lieutenant governor who is advised by a ministry of the legislature. In the Legislative Assembly there are 52 members elected for a 5-year term by adult voters. Six senators (appointed for life) and 21 elected members in the House of Commons represent Saskatchewan in the Dominion Parliament at Ottawa. Lieutenant Governor, J. M. Uhrich (appointed Mar. 24, 1948); Premier, T. C. Douglas (C.C.F.; reelected June 24, 1948). See CANADA.

SAUDI ARABIA. Saudi Arabia occupies the central portion of the Arabian Peninsula bounded by the Red Sea and the Persian Gulf. On the north Saudi Arabia is bounded by Transjordan, Iraq, and Kuwait, and on the south by Yemen, and a series of Arab sultanates and sheikhdoms having special political ties with the United Kingdom. The country has an area estimated to be about 927,000 square miles although much of it is still to be explored and surveyed, and a population estimated at about 5,500,000.

The Saudi Arabian state is an absolute monarchy whose king, Abdul Aziz ibn Saud, carved out by the sword during his own lifetime the country which bears his name. He is both the temporal and religious leader of his people, functions which are by no means clearly defined in a land in which Shariah or Koranic law is supreme. Ibn Saud and his people are followers of the puritanical Wahabi sect, which is characterized by a strict interpretation of the Koran.

Although Riyadh (pop. est. 80,000) in the central province of Nejd is the political capital and residence of the king, Mecca (pop. est. 90,000), the center of the annual pilgrimage, is the religious capital, while Jidda (pop. 60,000) is the diplomatic capital and locus of the principal offices of several important Saudi Arabian governmental departments. The remaining provinces are the Hejaz on the west bordering the Red Sea, where the holy cities of Mecca and Medina are located; Asir, which lies south of Hejaz along the Red Sea coast; and Hasa on the Persian Gulf side.

Economically, Saudi Arabia is quite primitive. The vast bulk of the country is a desert incapable of cultivation and, except for oil and small deposits of gold, almost devoid of natural resources. Except in Asir province, cultivation is limited to the oases and other areas where irrigation is possible. A large part of the population is nomadic, and the chief occupation is tending herds of camels, sheep, and goats. Industry in the cities is limited to handicraft production of textiles and leathergoods and crude metalworking. The country is not self-sufficient either in agricultural or in industrial products, depending upon its revenues from the annual pil-

grimage and more recently upon oil royalties to bridge the large gap between merchandise imports and exports.

World interest was centered on Saudi Arabia with the great oil discoveries on the Persian Gulf Coast in 1938 by the Arabian American Oil Company, a subsidiary of the Standard Oil Company of California and the Texas Oil Company. The concession which was obtained in 1933 runs to 1999 and covers approximately 440,000 square miles. There are four large fields, all on the east coast, with estimated proved reserves of 7,000 million barrels, and with a production at the end of 1948 of about 500,000 barrels per day. During World War II a refinery was built at Ras Tanura, near the oil fields, which now has a capacity of over 100,000 barrels per day.

Events, 1948. As a member of the Arab League, Saudi Arabia played a minor role in the armed conflict with the new Israeli Government, a contingent of the Saudi Arabian army having fought with the Egyptian army in the Negev during 1948. However, despite the resentment against the United States Government for its role in the Palestine controversy, relations between Americans and Saudi Arabs in Saudi Arabia have been generally cordial. An agreement on royalty payments was reached between the Arabian-American Oil Company (Aramco) and the Saudi Arabian Government, thus clearing up a controversy which had been outstanding for several years.

The original concession agreement provided that Aramco should pay a royalty of 4 gold shillings per ton of oil, the payments to be made either in gold £ (British gold sovereigns) or its equivalent in £ sterling or dollars. However, a difference of opinion arose between the Saudi Arabian Government and Aramco over how the equivalent value of the British sovereign should be determined. Under the terms of the new accord Aramco agrees that if it chooses not to pay its royalty in gold sovereigns, and instead elects to pay in dollars, it would do so by computing its royalty rate at \$12 per gold sovereign rather than at the official value of \$8.25 per sovereign.

The war over Palestine indirectly affected Saudi Arabian oil by slowing down operations on the Trans-Arabian Pipe line (TAPLine) scheduled to be laid from the Arabian oil fields on the Persian Gulf to Sidon, Lebanon, on the Mediterranean. During 1948 the Syrian Parliament steadfastly refused to ratify an agreement giving the TAPLine transit rights across Syria. As a result the work on the western end of the 1,100-mile line was suspended entirely, while work on the Persian Gulf end had to be slowed down because the U.S. Department of Commerce restricted the licensing of steel shipments for the TAPLine in response to the growing political uncertainties in the area. Scheduled to be completed by mid-1950 the 30-31 inch line will have a capacity of 300,000-500,000 barrels per day, depending upon the number of pumping stations employed.

The last remaining barrier to the completion of the deal whereby the Standard Oil Co. (N.J.) and Socony-Vacuum acquired 30 percent and 10 percent respectively of the shares of Aramco was removed in 1948 when settlement was reached with the Gulbenkian interests, a similar settlement having been made last year with French oil interests. The difficulty arose over the fact that both Jersey and Socony, as part owners of the Iraq Petroleum Company, were parties to the famous Red-Line Agreement whereby members were pledged not to acquire interests in oil concerns in other Middle

Eastern territories without the consent of the other members.

On July 15 the Saudi Arabian Government allowed a \$15 million Export-Import Bank credit to expire. In addition to enjoying large oil royalties in 1948 the Government received substantial Pilgrimage revenues, thanks to the arrival of an estimated 100,000 Pilgrims from outside the country.

—RAYMOND F. MIKESELL

SAVINGS BONDS DIVISION, U.S. A Division of the U.S. Treasury Department, organized Jan. 1, 1946, from its predecessor organization, the War Finance Division. Its chief purpose is to promote the continued peacetime purchase of U.S. Savings Bonds and Stamps through the payroll savings plan and through schools, as well as the protracted holding of bonds by the American people.

The Division and the Field offices operate through four main branches: Banking and Investment, Labor and Industry, Community, and Promotion and Publicity, all under the direction of the National Director, who is an Assistant to the Secretary. The sales organization (field) consists of offices in all States and the District of Columbia, actively operating in the recruiting of volunteer committees, sales, and promotional personnel. The Washington organization plans campaigns and advises and services the field workers. The Division enjoys the cooperation of all advertising media, including newspapers, radio, magazines and business

publications, motion pictures, labor, business, schools, etc. National Director: Vernon L. Clark.

SCHOOLS, U.S. In the year 1945-46 the enrollment in the public schools of the United States totaled 23,299,941, and the average daily attendance was 19,848,907. This compares with the year 1944-45, as follows: enrollment 23,225,784, average daily attendance 19,671,398 (U.S. Office of Education). In 1945-46 the number of high-school graduates increased 29,871, or 3.2 percent, and there were 34,052 more boys and 4,181 fewer girls graduated than in the year 1944-45. The number of graduates in 1945-46 was 186,792, or 16 percent, fewer than for 1941-42, the first year of the war.

Enrollments and the number of teachers in private and parochial elementary and secondary schools were increasing more rapidly than in public schools. Between 1939-40 and 1945-46 private school enrollments increased 8.2 percent, while during the same period public school enrollments decreased 8.4 percent. In Table 1 are shown the public enrollments by States for 1945-46, with totals for the continental United States for 1945-46, and 1944-45, and the total high-school graduates for 1945-46.

In Table 2 are shown the totals in the instructional staff and the enrollments in the private and parochial schools for 1945-46, with totals for the continental United States for the years 1945-46 and 1944-45.

TABLE 1—U.S. SCHOOL ENROLLMENT BY STATES, 1945-46

United States	Total enrollment	Enrollment				High-school graduates
		Boys	Girls	Boys	Girls	
1945-46	23,299,941	9,008,013	8,579,731	2,033,117	2,980,080	974,407
1944-45	23,225,784	9,053,952	8,611,642	2,505,099	2,994,401	944,536
<i>State</i>						
Alabama	638,375	270,938	260,734	44,135	62,568	14,764
Arizona	108,123	43,960	41,007	10,881	11,075	3,394
Arkansas	393,070	165,153	160,696	30,270	36,051	11,237
California	1,434,185	551,108	520,255	174,794	188,028	63,237
Colorado	205,007	82,125	75,113	22,020	26,636	9,242
Connecticut	250,730	93,770	87,689	32,767	36,504	13,044
Delaware	41,083	16,271	15,009	4,772	5,631	1,728
Florida	373,177	151,525	143,713	34,865	43,074	12,868
Georgia	694,382	280,977	270,306	55,323	71,776	17,340
Idaho	108,423	41,152	38,054	13,654	14,963	5,595
Illinois	1,115,707	413,049	388,384	157,145	157,129	60,030
Indiana	646,626	244,364	229,772	83,584	88,906	31,058
Iowa	460,538	179,157	167,395	54,389	59,597	23,042
Kansas	327,627	128,701	120,104	43,095	45,727	15,798
Kentucky	326,461	227,661	214,709	36,533	47,558	14,220
Louisiana	436,273	188,701	182,043	27,937	37,592	13,749
Maine	145,900	59,306	55,370	13,965	17,259	5,371
Maryland	288,301	117,240	110,379	27,765	33,007	9,863
Massachusetts	586,936	210,600	200,294	76,858	90,184	32,233
Michigan	946,627	358,922	334,964	119,911	132,830	41,736
Minnesota	462,539	175,735	163,195	57,552	66,057	24,073
Mississippi	517,024	226,978	221,181	28,481	40,384	10,189
Missouri	625,235	246,634	232,275	71,006	75,320	30,153
Montana	95,609	36,087	34,033	12,785	12,764	5,490
Nebraska	230,147	85,599	80,307	30,817	33,424	13,266
Nevada	24,684	9,679	9,179	2,842	2,984	870
New Hampshire	66,972	25,401	23,432	8,652	9,397	3,353
New Jersey	615,461	229,405	207,135	83,858	95,063	31,884
New Mexico	128,532	64,654	61,729	10,685	11,464	2,969
North Carolina	1,881,444	665,207	626,819	288,638	300,780	94,664
North Carolina	813,499	345,663	334,973	55,960	76,903	8,726
North Dakota	114,591	45,330	41,843	12,097	15,321	5,273
Ohio	1,118,508	424,881	395,863	140,894	156,868	58,130
Oklahoma	461,265	182,323	170,182	50,924	57,836	17,065
Oregon	223,764	85,334	79,385	29,043	30,052	11,487
Pennsylvania	1,513,178	553,514	520,630	209,146	229,888	79,020
Rhode Island	94,346	36,719	33,004	11,565	13,058	4,282
South Carolina	448,244	183,266	178,440	37,118	49,420	12,449
South Dakota	113,831	43,551	41,275	13,143	15,862	5,953
Tennessee	595,019	251,843	240,933	43,404	58,839	16,149
Texas	1,246,453	499,225	468,873	130,418	147,937	45,166
Utah	141,184	52,504	50,058	19,054	19,568	8,010
Vermont	52,997	19,600	21,660	5,346	6,391	2,154
Virginia	547,981	220,475	210,239	50,915	66,352	17,886
Washington	384,431	151,031	140,449	44,977	47,974	16,922
West Virginia	410,673	167,889	158,343	37,600	46,841	14,558
Wisconsin	484,356	178,734	166,647	64,019	74,956	28,368
Wyoming	53,998	21,004	19,624	6,348	7,022	2,428
District of Columbia	94,777	35,974	34,885	11,168	12,760	3,866

TABLE 2—PRIVATE AND PAROCHIAL SCHOOLS,
1945-46

United States	Instructional staff		Pupils	
		Elementary	Secondary	
1945-1946	100,865	2,259,392	565,108	
1944-1945	98,802	2,205,796	518,776	
State				
Alabama	687	11,152	3,241	
Arizona	287	5,081	840	
Arkansas	303	5,393	1,531	
California*	3,734	81,976	24,967	
Colorado	803	15,164	4,568	
Connecticut	2,302	47,524	11,473	
Delaware	324	6,102	1,519	
Florida	504	7,120	3,324	
Georgia	448	5,756	3,987	
Idaho	189	2,778	566	
Illinois	9,037	213,105	58,172	
Indiana	1,931	49,682	9,244	
Iowa	2,243	38,239	11,311	
Kansas	1,110	21,945	4,495	
Kentucky	1,754	35,187	11,203	
Louisiana	2,265	63,115	12,069	
Maine	1,057	21,407	7,800	
Maryland	1,932	44,849	10,524	
Massachusetts	6,788	131,424	35,602	
Michigan	4,504	117,885	34,993	
Minnesota	2,787	60,891	11,695	
Mississippi	385	7,148	2,227	
Missouri	2,864	69,216	15,025	
Montana	422	8,379	1,647	
Nebraska	989	20,266	5,101	
Nevada	12	336	95	
New Hampshire	1,005	18,573	4,905	
New Jersey	4,649	108,685	25,334	
New Mexico	579	8,409	1,960	
New York	14,287	358,401	78,774	
North Carolina	419	3,488	2,032	
North Dakota	504	8,482	1,578	
Ohio	5,465	134,708	33,044	
Oklahoma	524	7,649	1,884	
Oregon	597	10,312	3,285	
Pennsylvania	10,242	248,076	63,305	
Rhode Island	1,250	26,775	6,810	
South Carolina	223	3,191	1,712	
South Dakota	557	6,578	1,514	
Tennessee	721	8,652	5,695	
Texas	2,372	53,397	10,299	
Utah	89	1,248	538	
Vermont	507	8,369	3,219	
Virginia	864	9,246	6,423	
Washington	982	17,487	5,296	
West Virginia	366	6,233	2,587	
Wisconsin	4,177	109,260	16,098	
Wyoming	64	1,251	183	
District of Columbia	731	11,702	6,014	

* Less junior colleges.

SECRET SERVICE, U.S. A division of the U.S. Treasury Department, charged with the protection of the President, the suppression of counterfeiting, the suppression of the forgery of Government checks and bonds, safeguarding the money and securities of the United States, and investigations relating to the Treasury Department as directed by the Secretary of the Treasury. Chief: U. E. Baughman.

Domestic counterfeiting increased, but not to any alarming extent. Of a total of \$747,434 in counterfeit bills and coins captured in the United States during the fiscal year 1948, \$644,785 was seized before it could be passed. Bills and coins passed on storekeepers and others totaled \$145,214, including \$42,566 of foreign origin. Of 51 new counterfeit note issues which appeared during the fiscal year, 35 were of foreign origin. There were 158 arrests and 90 convictions.

There were 32,283 forged checks and 11,019 forged bonds received for investigation during the fiscal year. Agents completed investigations of 28,004 checks, totaling \$1,953,186, and 12,174 bonds with a value of \$579,909. Of the 1,732 persons arrested for check forgery, 1,590 were convicted. There were 232 arrests for bond forgery and 245 convictions (which included dispositions on cases pending from prior years). Fines in criminal cases totaled \$70,331 and jail sentences totaled about 2,091 years, with additional sentences of 2,585 years suspended or probated.

The Secret Service closed 43,540 criminal cases and 2,081 noncriminal cases, for a total of 45,621 investigations completed during the fiscal year.

SECURITIES AND EXCHANGE COMMISSION (SEC). An independent agency of the U.S. Government which has the following functions: Registration of security issues to provide factual disclosures and suppression of fraudulent practices in the sale of securities under the Securities Act of 1933; supervision and regulation of transactions and trading in outstanding securities, both on the stock exchanges and in the over-the-counter markets, and registration of brokers and dealers, as provided in the Securities Exchange Act of 1934; regulation of financial and related practices of electric and gas public utility holding companies and their subsidiaries under the Public Utility Holding Company Act of 1935, as well as readjustment of their system and corporate structures and reduction of their utility holdings to "integrated systems"; qualification of trust indentures pursuant to which new debt securities are offered, as provided under the Trust Indenture Act of 1939; registration and regulation of investment companies and investment advisers under the Investment Company Act and the Investment Advisers Act of 1940; and the preparation of advisory reports on plans, and participation as a party, in corporate reorganizations under Chapter X of the National Bankruptcy Act. Chairman: Edmond M. Hanrahan. See *FINANCIAL REVIEW* under *The Nation's Savings*.

SEISMOLOGY. Scope of Modern Seismology. While seismology primarily refers to the scientific study of earthquakes, seismological techniques have been projected into so many other fields in recent years that it can no longer be considered solely a branch of geology. The old practice of associating it mainly with volcanoes is inappropriate because volcanic earthquakes due to intense explosions are in a minor category compared with the thousands of stronger shocks due to ruptures in the deep rock structure of the Earth's crust. Today greater resources are expended on seismological activities in the search for oil than is represented in all other types of seismological activity combined.

The exploration geophysicist simulates earthquake effects by firing small charges of explosives in the ground and by study of the resulting ground vibrations detects what is likely to be an oil-bearing structure. In areas where destructive earthquakes are frequent the structural engineer is interested in the nature and magnitude of the destructive ground vibrations and has thereby created a new and important field of investigation; namely, engineering-seismology. The last decade also has given marked emphasis to the value of seismographic data in meteorological studies.

For several years the United States Navy has been tracking hurricanes and typhoons by measuring the directions of the minute ground waves known as microseisms, which are generated by low-pressure areas over the oceans. The variations in character and amplitude of microseisms of all types are still the subject of much speculation as to their cause but there is little doubt that they are all primarily of meteorological origin. These activities obviously give the word seismology a new and broader significance than heretofore.

Seismographs. The tool of modern seismological investigation is the seismograph. This in broad principle is a special type of damped pendulum which, when set into motion by a ground wave, records in highly magnified form the differential

motion between the oscillating pendulum and the moving ground. By a proper choice of pendulum period a seismograph can be made to record either the acceleration, velocity, or displacement of the oscillatory ground motion but there are practical limitations in certain categories.

The average seismograph is generally a compromise type designed to register clearly all of the important wave groups emanating from a distant earthquake regardless of the type of motion registered. Amplification of the pendulum motion generally varies from 500 to 50,000 but instruments for special purposes extend this range from 1 to 1,000,000. The amplitude of ground motion measured by this broad array varies from a few tenths of a micron found in the normal background activity of very stable geological formations to many feet or yards found in the central area of a great earthquake.

Usefulness of Seismographic Data. In earthquake investigations seismographic data serve a two-fold purpose: (1) to locate earthquakes, and (2) to delineate the structure traversed by the seismic waves which radiate in all directions from an earthquake focus. When an earthquake occurs, which is usually near the surface of the Earth, it radiates three principal wave groups. The first two, so-called primary and secondary waves, expand into the Earth's interior at different speeds so that a seismograph will register the surface trace of the higher-speed wave first and some seconds or minutes later register the slower-speed waves.

By measuring the time interval between the arrival of the two groups the seismologist is able to determine the distance to the earthquake by referring to an empirical seismological table which tells him the exact distance to which a particular time interval corresponds. Close to an earthquake the interval is only a matter of seconds but it increases to nearly ten minutes at distances about one-quarter the circumference of the Earth. When such epicentral distances are known from a large number of stations they are used as radii to swing arcs on the globe, to intersect at the location of the earthquake.

The greater part of the energy radiated by an earthquake is represented in waves which traverse only the crustal layers of the Earth. There are two types, the slower of which makes a completed circuit of the globe in about three hours. The other is only slightly faster. Seismographic data have made it possible to plot accurately the seismic belts of the Earth whether on land or beneath the seas. Although the rim of the Pacific and the southern portion of the Eurasian continent constitute the two major belts there are many minor belts.

No portion of the Earth's surface can be said to be entirely free of some form of seismic activity, which, for the Earth as a whole, sums up to about a million shocks per year including all types from those perceptible only to instruments to the destructive ones. Such activity can often be related to such geological features as mountain building. To the engineer such epicenter maps indicate where buildings, bridges, and dams must be reinforced to withstand earthquake forces.

To the student of Earth physics seismology yields more data on the structure of the Earth's interior than any other science. It furnishes a sort of X-ray of the interior in that it is possible to determine the velocities of all wave types at all depths and from these velocities to speculate on the character of the material traversed and the levels at which abrupt changes occur. From it we know that over continental areas there is generally

a granitic layer varying from 10 to 20 km. in thickness overlying a layer of basaltic rock of about equal thickness. Over portions of the large oceanic basins these layers decrease markedly in thickness and may even disappear. More significant than this is the evidence from seismological data that the core of the Earth, having a radius greater than half that of the Earth itself, transmits seismic waves at greatly reduced speeds.

In the last two decades it has been definitely shown that while most strong earthquakes originate at depths averaging around 12 miles others occur as far as 450 miles down. Some question is therefore raised as to the adequacy of any theory which calls for stress equilibrium at depths much shallower than this. Within the same epoch studies of earthquake energy have indicated that while tens of thousands of earthquakes may occur annually one great shock may represent as much as 90 percent of the earthquake energy expended during the year.

Seismological Organizations. Seismological observations and research are carried on at approximately 250 stations throughout the world about 75 of which are located in the United States. The principal organizations carrying on research in the United States are the Pasadena Seismological Laboratory at the California Institute of Technology, the University of California at Berkeley, the Institute of Technology at Saint Louis University, and the United States Coast and Geodetic Survey which, though centered in Washington, maintains a field office in San Francisco and a network of teleseismic and strong-motion stations in United States, Alaska, and Island possessions.

The Pasadena Seismological Laboratory under Drs. Gutenberg and Richter has been largely responsible for development of an instrumental magnitude scale and its application to earthquake statistics, for studies of the geography of earthquakes and their distribution in depth, and for studies of seismic wave transmission. One of the most important results of the research at the University of California under Dr. Byerly has been the establishment of the existence of a root or projection of lighter crustal material into the deeper layers under the Sierra Nevada Mountains.

At Saint Louis University, work done by Rev. J. E. Ramirez, S.J., under the direction of the Rev. James B. Macelwane, S.J., revealed the possibility of determining for every large microseismic storm the direction from which the microseisms came, thus leading to the United States Navy's successful program of tracking hurricanes in the West Indies and typhoons in the western Pacific.

The U.S. Coast and Geodetic Survey has carried on the seismological service of the Government since 1925. It is currently interpreting and publishing the instrumental results of 27 Survey, cooperating, and independent stations. It promptly reports the location of large earthquakes. This is accomplished by the cooperation of seismological stations all over the world which telegraph their seismographic data to Washington. The Survey also maintains a network of approximately 50 accelerograph stations in western United States and Central and South America to obtain destructive ground-motion data needed by the structural engineer in designing structures in earthquake areas.

Following the destructive seismic sea wave of Apr. 1, 1946, in the Pacific the Survey made arrangements to provide for prompt warning of the possibility of such waves in the future. Visible-recording seismographs installed at Tucson, Ariz.; College, Alaska; and Honolulu, T.H., and a 24-

hour alarm service will be maintained to permit the rapid determination of the location of submarine earthquakes potentially capable of causing seismic sea waves.

The American Geophysical Union, with its Section of Seismology, and the Seismological Society of America are societies composed of those interested in or engaged in seismology as a profession. Both organizations publish technical journals. The Society of Exploration Geophysicists is composed largely of those engaged in geophysical, including seismic, prospecting. The journal of the Society, *Geophysics*, publishes highly technical papers on various phases of geophysics. The International Union of Geodesy and Geophysics includes the International Seismological Association. Among its functions is the sponsorship of the *International Seismological Summary*, a compilation of worldwide instrumental data.

Earthquake Activity in 1948. During 1948 there were many strong and destructive earthquakes. The greatest shocks of the year in absolute magnitude were those of January 24 in the southern Philippines and September 8 in the Tonga Islands. A great disaster resulted from the earthquake of June 28 in Japan which caused the deaths of about 4,000 persons, injured 10,000 others, and destroyed or damaged approximately 55,000 buildings in and near Fukui. Another destructive shock occurred on October 5 near the border between Iran and the Turkmen Republic causing many deaths and injuries and considerable property damage in both countries. The village of Lihau in Sikang Province, China, was destroyed by an earthquake on May 25. Other destructive shocks occurred in Greece, Italy, Algeria, South Africa, the Dominican Republic, Peru, Chile, Argentina, Bolivia, and Hawaii.

Most of the activity in the United States occurred during December. A strong shock on December 4 caused some damage around Palm Springs, Calif., and a series of quakes shook Reno, Nev., and adjacent sections of California during the last few days of the month. An earthquake on November 2 momentarily interrupted power at Hoover Dam and caused rock slides in nearby mountains. Numerous smaller shocks were reported from all sections of the United States.

—FRANK NEUMANN

SELECTIVE SERVICE. In approving the Selective Service Act of 1948, the United States Congress declared that "in a free society the obligations and privileges of serving in the armed forces and the reserve components thereof should be shared generally, in accordance with a system of selection which is fair and just, and which is consistent with the maintenance of an effective national economy."

The task of applying this deeply-rooted American principle in conformance with the spirit and the letter of the law was assigned to the Selective Service System, created under authority of the Act.

The law recognizes that to be "fair and just" responsibility for selection of individuals for the armed forces must rest on the shoulders of men who know the individuals, their personal problems, and their relation to the welfare of their communities, as well as the Nation at large.

That is why the Act places so much emphasis on the Local Board and—in the final analysis—makes the Local Board the very foundation upon which Selective Service is built.

There are approximately 3,700 Local Boards in the System. Each is composed of three or more male citizens, 30 years of age or older, appointed

by the President upon recommendation of the respective governors. They receive no pay.

There is one Local Board for each county, generally speaking, and in densely populated areas one for each 100,000 population approximately. In areas of sparse population one board may serve as many as five counties when authorized by the Director.

The principal function of the Local Boards is to classify registrants under their jurisdiction—that is, to determine—on the basis of information obtained from its registrants' questionnaire and other pertinent sources—whether the registrant should be placed in a deferred classification, or in I-A—available for service. Obviously, the Local Board must follow the law and the regulations, and the registrant and certain other interested persons have the right of appeal, but that does not detract from the importance of the Local Board in the Selective Service scheme of things. Each State has one or more appeal boards. Under certain conditions appeals may be taken to the President.

Attached to each Local Board is a medical examiner, a registrant's advisor, and a Government appeal agent, who may appeal a case in behalf of the registrant or the Government if he thinks a classification unfair. (All of the foregoing members of the Selective Service System are uncompensated.) Appeals likewise may be taken by the Director or the State Director.

Under the organizational setup the Local Boards are directly responsible to the State Headquarters, State Headquarters to National Headquarters.

Major General Lewis B. Hershey was appointed Director of the Selective Service System by President Truman after enactment of the new law. General Hershey had been associated with Selective Service since 1936, when he was appointed Secretary and Executive Officer of the Joint Army and Navy Committee, which, through its studying and planning, laid the groundwork for the structure and the administration of the Selective Service Act of 1940. Under authority of this Act, 10,123,599 men were inducted into the armed forces—representing more than 66 percent of the armed forces total strength.

The World War II organization which General Hershey headed was, at its peak strength, composed of unpaid personnel totaling 185,000; paid personnel 25,000, compared to a contemplated 50,000 unpaid personnel and 5,500 paid personnel (approximately) under the present (1948) Act.

The Selective Service Act of 1940 expired Mar. 31, 1947. Congressional legislation enacted shortly before that date provided for the establishment of the Office of Selective Service Records, charged with the responsibility of liquidating the Selective Service System, preservation and maintenance of the Selective Service records containing data concerning approximately 44 million men, also preservation of the methods and knowledge of Selective Service. President Harry S. Truman appointed General Hershey as Director of this agency on Apr. 1, 1947, and it, in turn, was absorbed by the new Selective Service System upon enactment of the Selective Service law of 1948, which was June 24, 1948.

It was the planning and training accomplished by the Office of Selective Service Records during the interim between the expiration of 1940 Act and enactment of the 1948 Law which was largely responsible for the speed and efficiency with which the new organization was set up.

Approximately 8½ million men were registered by the Local Boards during the initial registration

period, set by Presidential Proclamation August 30 to September 18. Men 18 through 26 were registered. Those becoming 18 after September 18 are required to register within 5 days of the date of their birthday anniversary. The 18-year-old men are not liable for service until they reach the age of 19.

Actual inductions began in November to meet a call from the Army for 10,000 men. The December call was for 15,000; January, 10,000 (revised); February, 5,000 (canceled). Neither Navy nor Air Force requested any inductees during these months, nor were there indications that they would in the immediate future.

It had been expected that the Army calls would be higher, and in announcing the curtailed calls the National Military Establishment stated on Nov. 30, 1948: "The reductions were necessitated by the limitation of the military budget for Fiscal 1950 to \$15,000 million, of which \$600 millions are for stockpiling of strategic raw materials."

Previously (on June 28, 1948) Secretary of the Army Royall had placed the strength of the Army at 542,000 and pointed out that under authority of the Congress it might be increased to 837,000 with enlistees and inductees. He added, however, that the 1949 appropriations would limit the total number to 790,000 between then and July 1, 1949. The November 30 statement did not include figures on the revised scheduled army strength made necessary by the reduced budget.

As a generality, the number of men inducted depends upon the number needed to make up the difference between those who enlist and the scheduled strength. The more recruits obtained, the fewer who have to be drafted, and conversely, the fewer the recruits, the greater the number of draftees. That the very existence of a Selective Service law would greatly spur the enlistment rate had never been disputed, but to just what extent over a period of time can only be estimated as this is written.

It is well to bear in mind that Selective Service is a procurement agency designed to produce the number of men—and the type of men—required by the armed forces when called upon to do so by the armed forces. A frequently overlooked fact, and a very important one, is that the armed forces prescribe the number of men to be inducted and also the physical requirements each inductee must meet.

Approval of the Selective Service Act of 1948 was the culmination of a series of events put into motion by President Truman in a special message to Congress on Mar. 17, 1948. Pointing out that "our badly depleted military strength is one of the Nation's greatest dangers," the President requested reenactment of a Selective Service law and also a law providing for universal military training.

The President declared: "I believe that we have learned the importance of maintaining military strength as a means of preventing war. We have found that a sound military system is necessary in time of peace if we are to remain at peace. Aggressors in the past, relying on our apparent lack of military force, have unwisely precipitated war. Although they have been led to destruction by their misconception of our strength, we have paid a terrific price for our unpreparedness."

Measures embodying President Truman's recommendations were introduced in the Senate by Chan Gurney, Chairman of the Senate Armed Services Committee, on May 12, and in the House of Representatives by Walter G. Andrews, Chairman of the House Armed Services Committee, on

April 30, after prolonged hearings during which Major General Lewis B. Hershey, the Director of the Office of Selective Service Records, and Colonel Louis H. Renfrow, the Chief Legislative and Liaison Officer, were frequently called to testify and to submit pertinent facts and figures.

The Selective Service Act of 1948 was passed by the Senate and House in final form, without universal military training provisions, on June 12, 1948. On June 24, 1948, the measure was approved by President Truman and thus enacted into law (Public Law 759, 80th Congress). Follows a brief summary of the Act as it was approved June 24, 1948: The period of service is fixed by the Act at 21 months, with a maximum 5-year Reserve obligation subsequent to discharge. Men 18 years old are permitted to enlist for one year, within a 161,000 limit set by the Act. They also have Reserve obligations.

The Act authorizes the President to issue regulations under which persons whose employment in industry, agriculture, or other occupations or employment are found necessary to the maintenance of the national health, safety, or interest may be deferred by their local boards. The President is given authority to issue regulations providing for deferment by local boards of persons whose continued activity in study, research, or medical, scientific, or other endeavors is found to be necessary to national health, safety, or interest. (Pertinent regulations were issued August 23.)

The individual's status with respect to his activity or employment, as determined by his local board, is the governing consideration. Provisions authorize the President to issue regulations authorizing deferment by local boards of men who are married or with other dependents. (Such regulations were issued August 23.)

All males between 18 and 26 residing in the United States are required to register on dates proclaimed by the President, with very few exceptions. The few exceptions include men on *active duty* in the armed forces and foreign diplomats, and a few aliens under conditions rigidly specified.

Exemptions and deferments continue only so long as the cause for them continues. Exemptions are provided for most veterans under minutely specified conditions. Exempt also are ministers, ministerial students, and conscientious objectors, but the Act is specific in defining those who can qualify for exemption under those provisions. The Act provides that a sole surviving son of a family who lost one or more sons or daughters in the war—either in action or of wounds, injury or service-connected disease—cannot be inducted.

Deferments are provided for men who were members of organized units of Reserve components at the time of the law's enactment, and also for certain ROTC members and other ROTC members designated by the Secretary of Defense. Certain public officials are also deferred by the law while holding office.

High school students, under the law, may be permitted by their local boards to continue their courses, if their scholastic work is satisfactory, until graduation, or until they reach the age of 20, whichever is first. College and university students satisfactorily pursuing a full-time course at a college, university, or similar institution of learning may have their induction postponed by their Local Boards until the end of the academic year. Duration of the Act is two years.

No one may be inducted after reaching his 26th birthday anniversary. Reemployment rights are established substantially the same as under the old

Selective Service Act, with administration under the Department of Labor. The Act (as passed June 24, 1948) made no provision for the exemption of former members of the merchant marine. Nor does it provide for their deferment by regulation.

In July it was announced that men would be inducted in sequence of birth dates, beginning with men in the 25-year-old bracket and working down into the lower age brackets. It was pointed out, however, that there were relatively few men ages 25 through 22 who would be inducted because of exemption and deferment provisions in the law affecting veterans and men with wives or other dependents, and because of physical standards.

Regulations issued under authority of the Act established 5 classes and sub-classes, as follows:

CLASS I

- Class I-A: Available for Military Service.
 Class I-A-O: Conscientious Objector Available for Noncombatant Service Only.
 Class I-C: Member of the Armed Forces of the United States, the Coast Guard, the Coast and Geodetic Survey, or the Public Health Service.
 Class I-D: Member of Reserve Component or Student Taking Military Training.

CLASS II

- Class II-A: Deferred Because of Civilian Employment (Except Agriculture).
 Class II-C: Deferred Because of Employment in Agriculture.

CLASS III

- Class III-A: Deferred Because of Dependents.

CLASS IV

- Class IV-A: Registrant Who Has Completed Service; Sole Surviving Son.
 Class IV-B: Official Deferred by Law.
 Class IV-D: Minister of Religion or Divinity Student.
 Class IV-E: Conscientious Objector Opposed to Both Combatant and Noncombatant Military Service.
 Class IV-F: Physically, Mentally, or Morally Unfit.

CLASS V

- Class V-A: Registrant Over the Age of Liability for Military Service.

Follows a summary of registration reports, after the initial registration, which was from Aug. 30 to Sept. 18, 1948:

	United States	Territories	Grand Total
Number Registered.....	8,398,713	186,250	8,584,963
Single, Non-Veteran, Non-Father Born 1922-1929	2,048,626	99,187	2,147,813
Breakdown of Single, Non-Veteran, Non-Fathers *			
Born 1922.....	30,455	2,546	33,001
1923.....	103,727	8,007	111,734
1924.....	124,653	9,522	134,175
1925.....	147,087	10,277	157,364
1926.....	171,346	13,355	184,701
1927.....	261,162	14,811	275,973
1928.....	553,726	21,057	574,783
1929.....	656,470	19,612	676,082

* Non-veterans are those who do not qualify for deferment as veterans as defined by the Act. Husbands and fathers are deferred by regulations authorized by the Act. It should be borne in mind, however, that the total does not represent the available manpower pool, as a very large proportion will be found deferable because of physical condition, occupational status, and other reasons. Those born in 1929 cannot be inducted until after they reach 19. Approximately 1,200,000 pass from one age group to another each year.

—LEWIS B. HERSHEY

SENATE, U.S. See CONGRESS, U.S.

SEYCHELLES. A British colony in the Indian Ocean, 600 miles northeast of Madagascar. Including its dependencies, the colony comprises 92 islands. Mahe (55 sq. mi.), Praslin (15 sq. mi.), Silhouette, La Digue, Curieuse, and Félicité are the chief islands of the colony. The dependent islands include Amirantes, Alphonse, Bijoutier, St. François, St. Pierre, the Cosmoledo Group, Astove Island, Assumption, the Aldabra Islands, Providence, Coetivy, Flat, and Farquhar Islands. Total area: 156 square miles. Total population (Jan. 1, 1944): 33,621. Capital: Victoria (pop. 4,947).

The principal products include coconuts, cinnamon, patchouli oil, maize, sugar cane, mangrove bark, phosphate, and vanilla. In 1947 imports were worth Rs5,087,106; exports Rs4,163,626. Government revenue in 1946 totaled Rs3,376,382; expenditure Rs1,863,549. The colony is administered by a governor, assisted by an executive council and a legislative council. Governor: Dr. P. S. Selwyn-Clarke.

SHIPBUILDING, Merchant. Shipbuilding in the United States in 1948 saw the last merchant vessel initially conceived and contracted for under the wartime shipbuilding program completed and delivered in April, thus bringing to a close the greatest shipbuilding program in world history.

The United States had produced, insofar as number of vessels and total tonnage is concerned, the largest merchant marine ever known. Despite this fact, however, it did not have the balanced type of merchant marine required either for foreign trade or national security. The present merchant marine is neither adequate nor well rounded, because of a critical lack of passenger vessels, combination passenger-cargo ships and vessels for special trades and purposes.

The loss of such types of vessels was heavy during the war and, whereas at the time of the attack on Pearl Harbor, 25 United States lines were operating 133 vessels accommodating over 38,000 passengers, in October 1948, 17 American steamship companies were operating 52 passenger and combination passenger-cargo ships with a capacity of barely 13,000 persons. The age pattern of the United States merchant fleet is abnormal, in that the majority of those vessels suitable for a permanent merchant marine are of substantially the same age and will become obsolete or worn out, as a group, at the same time.

Country	No. of Vessels	Gross Tonnage
United States.....	3,644	26,689,500
British Empire.....	3,103	18,373,800
Norway.....	766	3,856,500
Sweden.....	512	1,719,200
Netherlands.....	448	2,513,600
Panama.....	436	2,721,700
France.....	426	2,356,300
U.S.S.R.....	418	1,299,300
Italy.....	317	1,995,200
Greece.....	218	1,244,000
Other Countries.....	2,182	7,816,400
Totals.....	12,470	70,584,500

As of June 30, 1948, the world tonnage of merchant ships, of 1,000 gross tons or over, amounting to 70,584,500 gross tons, included 12,470 vessels. The United States had approximately 29 percent of the vessels and better than 37 percent of the tonnage. The world tonnage of merchant ships of 1,000 gross tons or over, as of June 30, 1948, was distributed among the maritime nations according to the accompanying table.

The total of 70,584,500 gross tons of vessels in the world fleet is an increase of only 164,000 gross tons since June 30, 1947.

Postwar Construction. The first step in the U.S. Maritime Commission's contemplated postwar passenger liner program, which had been suspended in the summer of 1946 by Administration action, was taken in August 1948, when the Commission awarded contracts for 2 fast passenger liners and 3 combination passenger-cargo vessels. These were the first such contracts awarded on behalf of private shipping operators since 1940, exclusive of a few vessels completed shortly after the war as a part of the wartime shipbuilding program.

In December, bids were opened by the Maritime Commission for a superliner which will, if constructed, not only be the largest vessel under the United States flag but also will be suitable for conversion to a fast troop transport in a national emergency. Legislation intended to amend the Merchant Marine Act of 1936 by making it possible for shipping operators to procure new ships on more liberal terms than heretofore, and thus help initiate the long-range ship construction program essential to the continuance of the shipbuilding industry as a vital factor in the national security, was introduced in both the House and Senate in the second session of the 80th Congress, but failed of enactment in the closing days of the session.

On Jan. 1, 1948, the private shipyards of the United States had under construction or on order 30 seagoing merchant vessels, of 1,000 gross tons or more, totaling 185,818 gross tons and two dredges aggregating 22,672 displacement tons. The seagoing vessels included 12 cargo ships, 4 fruit ships, 3 ore ships, 3 trawlers, 6 oil tankers, 1 ferry, and 1 passenger ship. During 1948, the private shipyards of the nation delivered 28 merchant vessels, each of 1,000 gross tons or over, aggregating 165,300 gross tons as compared with 50 seagoing vessels totaling 286,473 gross tons in 1947.

On Jan. 1, 1949, the private shipyards had on order or under construction 76 vessels amounting to 1,190,430 gross tons and 2 dredges totaling 24,672 displacement tons. Of the 76 vessels 65 were oil tankers aggregating 1,089,000 gross tons. Scheduled for delivery in 1949 are 39 vessels (568,490 gross tons) and 2 dredges while 36 ships (603,940 gross tons) are to be delivered in 1950 leaving 1 oil tanker of 18,000 gross tons for 1951 delivery.

On Nov. 1, 1948, 1,161 vessels, of 1,000 gross tons or over, totaling 8,199,570 gross tons, were on order or under construction throughout the world. The United States shipyards had 14.9 percent of this construction and ranked third both in the number of vessels and in tonnage. World construction was distributed according to the accompanying table.

Country	Number of Vessels	Gross Tonnage
Great Britain.....	532	3,838,572
Sweden.....	198	1,352,555
United States.....	79	1,221,054
Holland.....	72	417,817
France.....	69	378,818
Norway.....	59	213,766
Denmark.....	56	274,918
Italy.....	31	158,554
Canada.....	29	129,881
Belgium.....	18	132,065
Spain.....	18	81,569
Total.....	1,161	8,199,570

A majority of the tankers on order in United States shipyards are the so-called supertankers ap-

proximating 26,000 to 32,000 deadweight tons as compared with the typical war-built T-2 tankers of 16,613 deadweight tons, and will carry 228,000 to 240,000 barrels of oil as compared with 141,000 carried by the T-2 type. Supertankers are in excess of 590 feet in length, which is about 100 feet longer than the T-2. High-pressure-gear steam turbines were designed to give these supertankers speeds of 16 knots and upwards as compared with the 14½ knots of the typical T-2.

The construction of still faster tankers is contemplated by at least one oil company which has opened bids for 5 high-speed supertankers, incorporating national defense features, having a length of 623 feet, beam of 83 feet, and draft of 32 feet. Each would be of approximately 24,000 deadweight tons and 20,000 shaft h.p. with a speed of 20 knots.

The 2 passenger liners, scheduled for delivery in the fall of 1950, are for use in the Mediterranean service. Each liner is 20,500 gross tons, 638 feet long and 80 foot beam with a designed speed of 23 knots and a passenger carrying capacity of 972 persons in three classes of accommodations. The 3 passenger-cargo vessels being built for around-the-world service are scheduled for delivery in mid-1950. They are of approximately 11,453 gross tons each, 536 feet long, 78 foot beam with accommodations for 228 passengers in one class. They are designed for a speed of 19 knots.

The superliner for which bids were opened in December, 1948, is of 48,000 gross tons, 980 feet in length, with accommodations for approximately 2,000 passengers and 1,000 crew members. The speed was not announced but the ship is expected to equal if not exceed the speeds of the *Queen Elizabeth* and *Queen Mary*. A vessel of this type would require approximately 1,200 days to build.

As of Jan. 1, 1949, the United States Navy had on order 20 vessels in 5 private shipyards which included a 65,000-ton superaircraft carrier, 10 destroyers, 4 cruisers, 4 submarines, and 1 command ship.

Conversion. The ship-repairing branch of the industry continued fairly active in 1948. As high as 70 percent of the employees in the industry had been engaged at times in repair and conversion work, which is a condition inverse to prewar operation. Repair and conversion of vessels from wartime adaptations to types suitable for normal peacetime operation continued, but in smaller volume. Ship repair activity normally is devoted principally to drydocking, painting, survey requirements, routine voyage repairs, and emergency or damage repairs, the volume of which depends upon the extent of ship operations. While yards were fairly active during the first three quarters of the year, repair work materially tapered off in the fourth quarter.

The initiation of the tanker and passenger ship programs provided a fairly substantial volume of business for marine specialty companies and other allied industries with marine divisions engaged in the design and manufacture of marine machinery and equipment.

Employment. In the 89 private shipyards of the United States reporting to the Council, employment dropped from 103,445 at the beginning of 1948 to 82,000 at the end of the third quarter ending September 30. Of the total employed at that date only 25,000 were engaged in new ship construction as compared with 28,932 at the first of the year. In repair work, 57,000 were engaged as compared with 74,513 at the beginning of the year.

The President's Advisory Committee on the Merchant Marine in its report of November, 1947, recommended as essential for national security, an absolute minimum employment in new ship construction in the shipbuilding industry of 60,000 persons for both private shipbuilding yards and naval shipyards. Based on the average distribution of employment between private shipyards and naval shipyards over a period of years, this minimum would be equivalent to an employment of 42,000 in the private shipbuilding yards. Hence shipyard employment still remains substantially less than the minimum recommended as essential for national security. —H. GERRISH SMITH

SHIPPING, Merchant. At the close of 1948 world shipping began to assume stability after having gone through the immediate postwar readjustment. The majority of foreign nations were well on their way towards achieving the goal not only of replacement of lost tonnage, but also that of considerable postwar expansion.

Whereas most American-flag steamship companies increased the size of their privately-owned fleets through the acquisition of the most modern types available, at the same time these companies gradually divested themselves of those ships under charter from the U.S. Maritime Commission. The result is that the active, privately-owned fleet now includes vessels that are greater, both in number and in tonnage, than the 1939 counterpart. From the standpoint of speed, age, and efficiency, the present vessels are far superior to the prewar ships which were rapidly approaching obsolescence and lacked the power and handiness required.

The accompanying table illustrates the trend which became apparent by year's end of the dwindling fleet of vessels under bareboat charter to the Maritime Commission, as trade for bulk and other cargoes declined and competition with foreign shipping grew keener.

Trade	Number of vessels	
	Sept. 16, 1948	Feb. 28, 1949
Bulk cargo (For.) Est.	344	280
Berth Service (Frt. For.)	121	80
Berth Service (Pass. For.)	8	8
Coastwise & Intercoastal	51	41
Alaska	18	3
Philippine Rehabilitation	10	9
Total	552	421

The greatest shipbuilding program in American maritime history was brought to a close early in April of 1948 when the final merchant vessel initiated under the war-construction program, the liner *President Wilson*, was completed and delivered. See SHIPBUILDING, MERCHANT.

Foreign shipyards during the year 1948 reported even greater gains in the postwar race for new tonnage, with the United Kingdom still the world's greatest postwar builder. As a result of the oil-tanker construction program, the United States ranked third in the gross tonnage of ships on order or under construction in the private shipyards of the world, according to returns compiled by the Shipbuilders Council of America. Great Britain is building 46.8 percent of the tonnage consisting of 532 vessels aggregating 3,838,572 gross tons. Sweden is second with 16.5 percent or 193 ships totaling 1,352,555 gross tons. The United States follows with 14.9 percent and is building 79 vessels of 1,221,054 gross tons.

The returns compiled by Lloyd's Register of shipping, which take into account only vessels of

100 tons gross and upwards the construction of which has been commenced, show that there was a total of 1,135 vessels aggregating 4,203,873 gross tons under construction in the world in 1948. Of this total there were 439 merchant vessels of 2,208,349 gross tons under construction in Great Britain and Northern Ireland. Of the remainder of new tonnage under construction throughout the world's shipyards, the Netherlands had 111 large vessels under construction and France was building 106. The various British dominions were constructing 68 ships. In Spain there were 76 under way and 69 were reported from Italian shipyards. Scandinavian yards reported a good share of new tonnage with 65 ships in Sweden and 60 in Norway. In tonnage, following Great Britain with her substantial lead, comes France with 399,612; the United States, 289,612; Sweden, 263,625; Italy, 220,352; and the Netherlands with 211,327 tons.

Oil-tanker construction throughout the world assumed even greater proportions as the demand for larger vessels became evident. Giant-sized super tankers were ordered to serve the longer hauls from new sources of supply far removed from refinery and market areas. Now under construction or contract in the United States are 58 new super tankers, ranging from 26,000 to 32,000 deadweight tons. Over one-half of all tonnage under construction at the year's end was tanker tonnage.

Of the 406 tankers under construction at the close of 1948, 192 were building in Great Britain and Northern Ireland; 92 in Sweden; 68 in the United States; 18 in Holland; 9 each in Belgium, Denmark, and France; 4 in Norway; 2 each in Italy and Spain; and 1 in Canada.

At the close of 1948 there were 1,584 merchant vessels representing the total active American Merchant Marine fleet, of which there were 1,216 privately owned ships, and some 364 American war-built ships under charter by private operators from the Maritime Commission. These ships were primarily engaged in transporting Marshall Plan relief and bulk cargoes. Many also served in the military trade supplying our armies of occupation in Germany and Japan. The European Recovery Act, passed in 1948, provided that at least 50 percent of ERP cargoes be transported in American bottoms. Average participation by U.S. flag shipping fell below this mark somewhat towards the close of the year.

While the American Merchant Marine may have dropped in active tonnage from 20 million to 18 million deadweight tons in the course of a year, considerable progress was made toward achieving stability. This was effected by an increase of more than 2 million deadweight tons in the privately-owned fleet, with the total strength of the permanent fleet given as 1,216 vessels at the year's end. The National Defense Reserve fleet, including its several temporary anchorages, consisted of approximately 1,866 vessels. On Mar. 1, 1948, transfer of ships under the ship sales program was limited to U.S. citizens, with those not sold added to the reserve fleet.

Able Seaman	Dec. 31, 1948	Able Seaman	Dec. 31, 1948
United States	\$226.01	Greece	74.00
Canada	170.00	Denmark	71.19
United Kingdom	96.60	Italy	35.90

* Since Jan. 1, 1941, there has been an increase of 174 percent in an Able Seaman's basic monthly wages in the United States.

During 1948 American labor played a big role in the operation of American ships, tying up vessels for 95 days on the West coast and 18 days in Atlantic coast ports, while operating costs

reached even higher peaks. The real and relative increase in seamen's basic monthly wages is illustrated in the accompanying table.

New passenger liners (of 13,000 tons or more) launched or completed in the world during 1948 include the following vessels: *Caronia* (U.K.), 34,000 gross tons; *President Wilson* (U.S.A.), 22,000 gross tons; *Parthia* (U.K.), 13,350 gross tons.

Several new moderate-sized foreign passenger vessels were completed over this period, as were 4 new American passenger liners. The cruise picture, now recovering from the difficult postwar adjustment period, has brightened considerably. Many new special cruises were scheduled by both American and foreign lines at the year's end and prospects for 1949 showed even greater cruise offerings in the making. Famous liners, still undergoing repairs or reconversion throughout the world's shipyards, include the following: *Liberté* (formerly the *Europa*, French), 49,746 gross tons; *Ile de France* (French), 43,000 gross tons.

America's inland waterways continued to expand in activity and during 1948 reported a gain of approximately 30 percent in traffic, as more and more industries turned to the barge carriers for every possible saving in transport costs. A record-breaking season of shipping was reported for Great Lakes movements in 1948 with heavy shipments of iron ore and coal.

—FRANK J. TAYLOR

SHOOTING. John W. Schenk of Sharpsburg, Pa., won the Grand American Handicap—top prize of trapshooting—at the 49th championships at Vandalia, Ohio, in August. Mrs. Julius Petty of Stuttgart, Ark., took the equivalent award for women.

Among the other major victors were E. W. Castenado of Shreveport, La., champion of champions; Mrs. Moselle Cameron of Denver, Col., women's champion of champions; Silas M. Simmons of Natchez, Miss., open; Mercer Tennille of Shreveport, doubles; Mrs. Lela Hall Frank of Sierre Madre, Calif., women's doubles; John A. Broughton of Ferguson, Mo., North American clay target; Mrs. Frauk, women's North American clay target; Robert E. Reese of Geneseo, Ill., junior; Forrest McNeir of Houston, Texas, veterans; Paul Kohler, Tekamah, Neb., national Class AA.

The big prize in national skeet-shooting competition at Las Vegas, Nev., in September was annexed by Sgt. Glen Van Buren of Fort Worth, the Texan also winning the national service title. Mrs. R. H. Martin of San Antonio, Tex., led the women. Pete Read of San Angelo, Tex., was crowned champion of champions and George Glass, Jr., of Midland, Tex., was tops among the juniors. Alex Kerr of Beverly Hills, Calif., was high over-all king, with Ton San Filipino of San Francisco, Calif., taking the 20-gauge laurels.

Harry Reeves of Detroit, Mich., won the national pistol championship, while the King of the national riflemen was Arthur Cook of Washington, D.C., who also triumphed in his specialty at the Olympic Games. See OLYMPIC GAMES.

—THOMAS V. HANEY

SIAM. A limited monarchy in southeastern Asia, west and southwest of French Indochina and separated therefrom by a border line which in 1948 was an issue of dispute between the two countries. Officially called Thailand from 1939 to 1945, it was renamed Siam after liberation from the Japanese in September, 1945. Ruler: King Phumiphon Adundet (born Dec. 5, 1927), proclaimed King on June 9, 1946, following the death of his brother, Ananda.

Area and Population. Comprising 200,148 square miles, the land supported a population of 17,256,325 (by census of May, 1947), of whom 2,500,000 were Chinese and 650,000 were Malaysians. Population of chief cities in 1947 was: Bangkok (capital), 884,197; Khonkaen, 590,664; Chiangmai, 534,628; Chiang Rai, 481,621.

Education and Religion. Sixty percent of the adult population is illiterate. Primary education is free and compulsory. According to the 1947 census, Buddhism claimed 88.5 percent of the population; the Moslem faith, 4.3 percent; Christianity and others, 7 percent.

Production. Siam is essentially a producer of raw materials. The chief products are: rice, 4,500,000 metric tons in 1947-48; rubber, 53,430 metric tons in 1947 (24,600 in 1946 and 42,480 in 1939); teak, 62,000 tons (1947); tin, 1,410 metric tons in 1947 (24,600 in 1946 and 42,480 in 1939). Other leading products are tobacco, coconuts, pepper, cotton, and cement (59,300 metric tons in 1947 as against 116,000 in 1939). Tungsten, gold, silver, coal, iron, lead, antimony, copper, rubies, and sapphires are indigenous. Manufacturing is largely restricted to lumber and rice milling.

Foreign Trade. For the calendar year 1947, imports were valued at 1,390,387,840 baht (as against 548,400,000 in 1946 and 129,600,000 in 1939); exports were valued at 946,100,000, excluding tin (as against 456,000,000 baht in 1946 and 204,800,000 in 1939). Imports for 1947 included about \$34 million in gold leaf and bullion and \$15 million in war surplus charged against United States and Indian credit accounts.

Finance. Budget revenue for 1948 was estimated at 1,390 million baht; expenditure, 1,280 million baht. For 1947, estimated revenue was 685 million baht; expenditure, 962 million baht. In 1948 the baht was officially tied at 10.05 to the U.S. dollar, but fluctuated around 20 baht to the dollar in the open market.

Transportation. Railway trackage in 1948 totaled 2,040 miles; length of motor highways, 2,675 miles. With 14 international airlines using its facilities, Bangkok (in 1948) was a regular stop on weekly round-the-world flights touching, among other places, San Francisco, Tokyo, Shanghai, Hong Kong, Calcutta, and New York.

Communications. Bangkok is the only area served by a telephone exchange, which (in 1947) handled about 5,000 telephones. There were 278 telegraph offices, with 9,622 lines, in 1939.

Government. The constitution of Dec. 10, 1932, transformed Siam from an absolute to a limited monarchy. Nominally the King exercises executive power through a State Council (Cabinet) and legislative power through an Assembly of 182 members, to which the State Council is responsible. Half the members of the Assembly were elected by popular vote and half nominated by the Crown. In 1946, a constitutional revision created an Upper House, in addition to the Assembly. At the same time, the members of the Lower House became entirely elective as the system of nominating one-half the Assembly was abolished.

Events, 1948. Undismayed and largely unaffected by the reign of revolutionary terror that culminated in the overthrow of the government late in 1947, the people of Siam continued to display unusual capacity throughout all of 1948 to recover from the economic stagnation that settled over the country during and after the Japanese occupation. Rice production and exports skyrocketed to all-time highs; Siamese rubber and tin, formerly siphoned through British Malaya for world consumption,

were exported in huge proportions directly from Siamese ports and principally to the United States for stockpiling incident to world uneasiness. Against this co-prosperity established with the western hemisphere, and despite the revolutionary, unstable character of the government, the waves of communism awash in southeast Asia were ineffective. And against this background, threats and acts of military aggression from Indochina were equally ineffective.

Political Upturns. Attempting to legalize the powers it gained by revolution in 1947, the rebel government of Premier Khuang Abhaiwong began the year 1948 by ordering general elections within the framework of the democratic constitution it had floated only two months previously (see *YEAR BOOK, Events of 1947*). These elections were held early in January and presented the rebel (called Democratic) party with 54 out of a possible 100 seats in the new Parliament, thus defeating the Tharmatipat party of Field Marshal Luang Pibul Songgram, wartime puppet dictator under the Japanese and co-leader of the coup that placed Abhaiwong originally in power. Discontented with the outcome, Marshal Songgram organized a bloodless counter coup d'état, with military support, that forced Abhaiwong to resign (April 7), and installed Songgram as leader in his place (April 8).

Although as Premier before and during the Japanese occupation, Marshal Songgram had instituted a strong-arm dictatorial rule, almost on the Japanese pattern and designed for Japanese approval, his latest accession to power was accompanied by loud vociferations of democratic faith and principle. He quickly oriented his government toward cordial friendship and cooperation with the United States and Great Britain and against the Soviet-Communist bloc reaching out over Asia.

Preoccupied with the benefits of unusual prosperity, the people of Siam paid sparse attention to the political upturns and somersaults that kept the capital, Bangkok, agog. Among the military officers, aristocrats and upper strata of intelligentsia, however, a feeble ferment of dissatisfaction was visible throughout the year. On more than one occasion the government was alerted to forestall a revolution. During the early evening of October 1 a group of insurrectionaries stormed and occupied the offices of the Ministry of Defense and established a rival government until ejected and captured by Loyalist troops a few hours later on October 2. Forty alleged ringleaders of the plot arrested by the Songgram government included a brother of Nai Fride Phanomyong, erstwhile Premier who fled the country in November, 1947, and who was being tried in absentia in 1948 for the alleged murder of the late King Ananda Mahidol on June 9, 1946.

Economic Gains. Phenomenal gains in agricultural and business production were established in Siam in 1948. The rice crop, basic staple of the land, aggregated an export total of 1,500,000 metric tons, exceeding by 800,000 tons an earlier official estimate for the year. The hunger that stalked the country during 1947 was virtually eliminated. Acquiring big dollar balances by virtue of American purchases of rice for China, Japan, and Korea and of tin and rubber for stockpiling purposes, the country became an important center of postwar United States economic and political interest.

American business flourished and expanded without parallel in that part of the world. Moving in a sphere that for 50 years before the Japanese conflict was virtually a monopolistic preserve of British interests, the dominant American position

was reflected in the number of American business enterprises established in Bangkok, a number that increased from one in 1945 to 30 in 1948. A prime resource in American accumulation of tin and rubber, the country became the chief supplier of tin ore for the war-built tin smelter works at Texas City in 1948.

The tempo of business activity brought renewed pressure on the Siamese government to expand and modernize the transportation facilities of the country, and on October 13 it was announced that orders for £5 million of railway stock were being placed with the British government by emissaries of Siam.

Communist Pressure. Encouraged by the series of revolutionary plots that overthrew elective government and mocked the democratic processes guaranteed by the Constitution, a small but volatile group of Communists sought throughout 1948 to increase the scope of Soviet influence in the land. Bangkok and other strategic centers were heavily garrisoned to thwart what was officially described on July 25 as "threatened Communist violence and sabotage." Almost simultaneously the government announced the presentation to the Parliament of a bill to outlaw the Communist party, and stated that 61 Chinese Communists had been arrested for "participation in illegal secret societies." The total number of Communists in the country was estimated at 50,000, almost exclusively composed of Chinese nationals or expatriates. On July 27, the Kuomintang, governing party of China, was officially banned by P'rasit Chumphinit, Assistant Secretary of the Interior Ministry, on the ground that it violated a Siamese law prohibiting alien societies from engaging in political activity.

Strife with French Indochina. The smoldering border dispute with French Indochina, which was only partially settled with the cession of the Loatian territory to Indochina in 1947, continued to flare throughout the past year. Armed troops faced each other across the disputed line and minor incidents, both real and fanciful, provided fuel to keep the tension alive.

Siamese provincial officials reported on October 21 that 100 French soldiers had crossed the Siamese border on October 18 and had killed a police constable and two Siamese civilians. Siamese police were dispatched to the scene and after an hour-long skirmish the French troops withdrew across the Mekong River. The incident occurred just south of the Loatian territory. The possibility of further bloodshed was reflected in a report from Bangkok (October 23) that Great Britain had agreed to re-equip eight Siamese divisions, and in a further report (December 7) that Siamese authorities had called up thousands of reservists for three months' special training in the use of modern weapons and commando tactics.

Opium Curbs. Plans to outlaw the cultivation of opium poppies and to require the registration of all opium addicts were announced by the government on August 29. A bill to this effect was subsequently introduced in the Parliament. It was estimated that the country's opium trade aggregated \$6 million annually and that there were 300 licensed and twice that many unlicensed opium dens throughout the land, with 20,000 addicts in Bangkok alone.

—HAROLD J. COOPER

SIERRA LEONE. A British West African colony (271 square miles) and protectorate (27,669 square miles, including those areas of the colony treated as protectorate). Total area, 27,925 square miles. Population (1940): 2 million (estimated). Cap-

ital: Freetown (86,000), an important naval base.

Production and Trade. The chief agricultural products are palm kernels and oil, kola nuts, piassava, ginger, rice, millet, cassava, and groundnuts. Mineral products include diamonds, gold, iron ore, and chromite. Foreign trade (1946): imports £8,961,384; exports £2,139,624. The chief exports were diamonds, iron ore, palm kernels, and chromite.

Government. In 1946 revenue totaled £2,195,474; expenditure £1,833,483. Net public debt (Jan. 1, 1945): £1,369,684. The colony and protectorate are administered by a governor, assisted by an executive council (nominated) and a legislative council of 23 members, 3 of whom are paramount chiefs of the protectorate. In addition, there is a protectorate assembly, which was convened for the first time on July 23, 1946. This assembly is under the chairmanship of a chief commissioner and is the recognized body empowered to advise the government on matters pertaining to the social, political, and economic development of the inhabitants of the protectorate. It includes elected and nominated members. Governor: G. Beresford Stooke.

SILVER. Production of silver in the Western Hemisphere is estimated at 121 million fine oz. (1947: 121.8 million oz.). Mexico was the principal producer with 46 million oz. (1947: 49.2 million oz.); followed by the United States, 37.7 million oz. (1947: 36.1 million oz.); Canada, 16 million oz. (1947: 13.5 million oz.); and Peru, 8.5 million oz. (1947: 10.2 million oz.). Industrial demand was at a very high level. Consumption by the arts and industries in the United States is estimated at 110 million oz., an increase of 10 percent. Two-thirds of the total was consumed for flatware and hollowware. Use of sterling silver for jewelry increased, as well as silver used for industrial purposes, principally electrical contacts and brazing alloys. Allocations for authorized uses by the United Kingdom were 14 million oz. Canadian industrial uses required 4.5 million oz., while Mexico used only 800,000 oz. for industrial purposes. Purchases of silver in New York by foreign buyers were severely limited by exchange restrictions. Foreign sellers willing to accept sterling were attracted to the London market by somewhat higher silver prices. The Bombay market continued to operate on a completely internal basis. Prices on the New York market ranged from the high of 77.75 cents per troy oz. to the low of 70.00 cents at year-end. Domestic production was purchased by the Treasury at 90.50 cents per fine oz. under the Act of July 31, 1946. Treasury holdings of silver at the year-end are estimated at 2,782,700,000 oz., an increase of 37.2 million oz. —JOHN ANTHONY

SINGAPORE. A British island colony at the southern tip of the Malay Peninsula. Area (including its dependencies—Cocos, or Keeling, Islands and Christmas Island): 220 square miles. Population (1947 census): 942,756, including 728,523 Chinese, 73,802 Malays, 71,300 East Indians, 8,790 Europeans, and 9,012 Eurasians. The capital city, Singapore, situated at the southern end of the island, is the most important commercial emporium of southeastern Asia. Principal products of the island are coconuts, tapioca, cacao, aloes, nutmegs, gambier, and a great variety of fruits and vegetables. Phosphate of lime is exported from Christmas Island. Singapore is the center of a tremendous transshipment trade—its imports and exports include cotton piece goods, copra, rice, tin, silks, tobacco, spices, pe-

troleum, sugar, coffee, pepper, opium, gambier, coal, fish, rattans, skins, and rubber. The manufactures include white pepper, tapioca, sago, gambier, vehicles, tools, furniture, ships, canned pineapple, and biscuits. Foreign trade (1946, April–December): imports S\$571,847,802; exports S\$440,970,592.

Government. Finance (1946): revenue S\$31,524,000; expenditure S\$48,511,000. Formerly one of the Straits Settlements, Singapore was constituted a separate colony on Apr. 1, 1946. During the period of transition the government is administered by a governor, assisted by an advisory council of 7 official and 10 nominated unofficial members. A legislative council was set up following elections on Mar. 20, 1948. The legislature will have 23 members, 10 official and 13 unofficial (9 elected and 4 nominated). Governor and Commander in Chief: Sir F. C. Gimson (appointed Jan. 29, 1946).

SKATING, Ice. Barbara Ann Scott of Ottawa dominated all rivals in figure skating, and then turned professional after the campaign. Canada's pretty ice ballerina started her string of sparkling conquests in the European championships at Prague, then went on to capture the Olympic title, retain her world crown at Davos, Switzerland, and wind up the season with a victory in the Canadian tests. See OLYMPIC GAMES.

Dick Button of Englewood, N.J., shone in the senior men's competition, sweeping European, Olympic, world, and national honors. Micheline Lannoy and Pierre Baugniet of Belgium won the world pairs title at Davos, while Andrea Kekessy and Ede Kiraly of Hungary triumphed in the pairs event at Prague.

Women's honors in our national meet were kept by little Gretchen Merrill of Boston, Mass., the pairs title going to the sister-brother team of Karol and Peter Kennedy of Seattle, Wash. The gold dance championship was won by Lois Waring and Walter Bainbridge of Washington, D.C., while the fours crown went to the St. Paul Figure Skating Club.

Speed skating was featured by close competition. Champions in the world meet were O. Lundberg, Norway, all-around; Konstantin Kurdjajvstet, Russia, 500 meters; John Werket, United States, 1,500; Kees Broeckman, the Netherlands, 5,000 and 10,000, North American title winners were George Fischer, Chicago, outdoors; Al Broadhurst, Roslindale, Mass., indoors; Betty Mitchell, Winnipeg, women's outdoors; Loraine Sabbe, Detroit, Mich., women's indoors. Fischer and Miss Sabbe also took top awards in the national championships. Victors in the European title tests were Reidar Liaklev, Norway, all-around; Bob Fitzgerald and Del Lamb, United States, tied at 500 meters; Broeckman, 5,000; and Liaklev, 10,000.

—THOMAS V. HANEY

SKIING. Rugged weather and improvements for Winter sports in many municipal and national parks throughout the United States added greatly to the popularity of skiing for recreation, while interest in Olympic competition gave this ever-growing sport tremendous impetus. See OLYMPIC GAMES.

Swedish stars just about dominated the men's events in most of the major European meets, as well as the Winter Olympic Games, although followers of the sport on this side of the Atlantic showed a definite improvement in competition.

Jack Reddish of the Alta Ski Club of Utah, star of the U.S. Olympic squad, made a practical sweep

of the major honors in North American events. One of the features of a crowded competitive schedule was the North American championship meet held at Aspen, Colorado, in March. Reddish won the downhill, slalom and combined slalom, open and amateur honors in that meet, the Class A jump being won by Hans Karstein of Oslo, Norway. Jack Wahlburg of Berlin, N.H., was the cross-country victor and Reidar Andersen of Oslo took the combined jump and cross-country crown. Maud Banks of Aspen, Colorado, swept the women's North American titles, taking the downhill, slalom and combined, open and amateur events.

Reddish added three titles to his long list of achievements for the campaign in the national championships, taking the downhill, slalom and combined, open and amateur laurels. Other winners were Arne Ulland of Oslo, Class A jumping; Trygve L. Nielson of Madison, Wis., Class A cross-country, and Robert Wright, St. Lawrence University, combined jumping and cross-country.

Feminine winners in the national meet were Janette Burr of Seattle, Wash., downhill, open and amateur; Ann Winn of the University of Utah, slalom, open and amateur, and Suzanne Harris of Sun Valley, Idaho, combined slalom, open and amateur.

Following the Olympic Games, stars from eight nations took part in the first international meet for the Hannes Schneider Trophy at St. Anton Am Arlberg in Austria, and Reddish won added glory there when he set a new record of 2 minutes, 38 seconds for the 2,600-foot Osthang Galzig slope in capturing the downhill race.

Other outstanding events during the busy campaign included major meets at Oslo, where Olle Dalman and Ake Nilsson of Sweden were the shining stars; the Lauberhorn races at Wengen, Switzerland, and the Swiss women's world meet at Grindelwald.

—THOMAS V. HANEY

SLOAN FOUNDATION, INC., Alfred P. Incorporated in 1936, the Foundation aids accredited schools and colleges in developing new "patterns" in economic education. On Dec. 31, 1947, its capital assets were valued at \$9,981,846. Up to the same date, the Foundation had made grants and donations amounting to \$8,321,117. At present the Foundation is enabling colleges and universities to promote popular economic education through radio, recordings, motion pictures, books and pamphlets, fellowships, and class instruction. Among such projects aided by the Foundation are: the University of Chicago Round Table of the Air, a weekly radio discussion of economic phases of national and international questions; and the New Tools for Learning Bureau of the New Jersey State Teachers College at Montclair, New Jersey, which produces dramatic radio programs illustrating economic institutions and principles for broadcasting by transcription.

In addition, the Foundation is presently providing support for seminars on current economic problems and related subjects at American University and at the Universities of Denver, Southern California, and California. Members of these seminars include graduate students and community leaders.

In the field of applied economics, the Foundation has aided the Universities of Kentucky, Florida, and Vermont in carrying on experiments designed to help low-income groups. The experiments aim to discover whether solely through instructing school children in simple, inexpensive ways of improving diet, housing, and clothing, the community level of living can be raised. To enable teacher-

training institutions throughout the country to apply the results of this experimentation, special grants have been made to the American Association of Colleges for Teacher Education.

In recent years the Foundation has made grants totaling \$4,562,500 to Memorial Hospital for the erection and maintenance of the Sloan-Kotterling Institute for Cancer Research. Construction of this Institute has been completed and it is now in operation. President: Alfred P. Sloan, Jr. Executive Director: Arnold J. Zurcher. Offices: 30 Rockefeller Plaza, New York 20, N.Y.

SMITHSONIAN INSTITUTION. The affairs of the Institution are administered by a Board of Regents consisting of the Vice President, the Chief Justice of the United States, three members of the Senate, three members of the House of Representatives, and six citizens other than members of Congress. The executive officer of the Institution is the Secretary, at present Dr. Alexander Wetmore. The Institution now has 10 branches, as follows: United States National Museum, National Gallery of Art, National Collection of Fine Arts, Freer Gallery of Art, Bureau of American Ethnology, International Exchange Service, National Zoological Park, Astrophysical Observatory, National Air Museum, and Canal Zone Biological Area.

The Institution was founded in 1846 through the bequest of James Smithson, of England, for the "increase and diffusion of knowledge among men." This purpose is carried out chiefly by means of scientific researches, explorations, and publications.

In 1948 many fundamental investigations were in progress in the fields of anthropology, zoology, botany, geology, and astrophysics. Scientific field work in connection with these researches was carried on in Arnhem Land in Australia, the Antarctic, Bikini, the Persian Gulf, Colombia, and Panama, besides many localities in the United States.

Among the 500,000 new specimens accessioned in 1948 by the U.S. National Museum, the most outstanding was the original Wright Brothers airplane of 1903, presented to the United States of America by the heirs of Orville Wright on Dec. 17, 1948. Visitors to the Smithsonian buildings totaled 2,293,499 for the fiscal year 1948.

The River Basin Surveys, a unit of the Bureau of American Ethnology, investigated 1,576 archeological sites that will be inundated through dam construction in river basins in various parts of the country. Of these, 250 were recommended for prompt excavation in order to save valuable archeological data from oblivion.

SOCIALISM. The Socialist movement throughout the world divided increasingly in the year 1948 into two camps. The Socialist parties in democratic countries became, for the most part, ever more unified in their opposition to totalitarian communism and their refusal to join with Communist parties in united-front activities. The Socialists in the Russian-satellite countries, who had entered into electoral pacts with Communists, were, on the other hand, either merged into a single party dominated by Communists or were permitted to retain their own organizations only at the price of the loss of practically all independence of action.

As in former years, the Socialist movement had its most solid base in the countries of Western and Northern Europe and in Australasia. The British Labour Party remained the most important of the democratic Socialist parties of the world, and continued throughout the year to carry out its five-year program of socialization. In Asia several

Socialist and semi-Socialist governments were functioning or fighting for survival in the Indies.

In Great Britain, the Labour Government on Jan. 1, 1948, took charge of the operation of inland transportation following the passage of "the largest and most extensive socialization measure," according to Minister Barnes, "ever presented to a free, democratic Parliament." On July 5, the Government put into effect its National Insurance Act of 1946 which provided an all-embracing system of insurance for every person in the country over school-leaving age. It likewise began the operation of the National Health Act, which made available to every man, woman, and child in Great Britain free medical attention, hospital and specialist services, surgical appliances, and drugs.

In November, the Government introduced a measure for the nationalization of the iron and steel industry. This act brought into public ownership all firms producing 50,000 or more tons of iron ore a year, or 20,000 or more tons of iron and steel. All the firms taken over retained their names and legal entity. Labor during the year likewise passed a statute which, in the future, would prevent the House of Lords from blocking legislation passed by the House of Commons for more than a 12-month period. In the death of Sidney Webb, it lost one of the most outstanding intellectual leaders.

On the European continent, Socialists continued in control of the three Scandinavian governments. In Sweden, an election for members of Parliament was held on September 19, resulting in the election of 112 Social Democrats. While its popular vote was increased by 265,000 over that of 1944, its parliamentary representation was reduced by 3. The Liberals, the next largest party, secured 57 seats, a gain of 30; the Communist Party, 9, a loss of 6. Following the election, the Social Democratic Party continued as the Government under the leadership of Premier Tage Erlander.

The most extensive experimentation in new public undertakings in Scandinavia during 1948 was in Norway, where the Government since the end of the German occupation has greatly increased its control over electrical, aluminum, and chemical production; has initiated state monopolies in the importation of grains, solid fuels, and medical supplies, and has undertaken the operation of a nation-wide chain of agricultural machinery stations.

In Finland, despite its proximity to Russia, the Social Democrats in the parliamentary elections secured 54 out of 200 seats, a gain of 6. Although the Agrarians won the largest number of seats (56), the Socialists obtained the largest popular vote, and, following the elections, formed a cabinet consisting of 15 Socialists and 1 Independent.

In France, during the year, the Socialists continued with the third largest representation in the House of Deputies, 103 out of 618. The party refused support to the Schuman Cabinet in July over a dispute regarding the wage-price relationship. Five Socialists joined the country's cabinet in early September headed by Premier Henri Queuille, Radical Socialist, and composed of 3 Radical Socialists, 5 Socialists, 5 Popular Republicans, 1 Liberal Republican, and 1 Union of Resistance member. In the elections for the Council of the Republic in early November, Socialists secured 62 seats out of 309 (with 11 not reported); the DeGaullists taking first place—and the Communists dropping down from a representation of 84 to 21. The Socialist Party throughout the year gave its support to the Marshall Plan, while the

Communists, through the party and the Communist-controlled French Confederation of Labor, vigorously opposed it.

In Belgium, Paul-Henri Spaak, head of the Belgian Labor Party, headed a coalition cabinet except for a few weeks during the year. On November 19 he resigned from the premiership during a dispute with Justice Minister Struyve over the latter's alleged leniency toward convicted Nazi collaborators, but on November 26 formed a new cabinet of Socialists and Social Christians. One of his first acts was the appointment of a commission with a view toward the settlement of the monarchical question. He declared that the question of the punishment of traitors would be dealt with in agreement with Parliament.

In Italy, the split between the Socialist Party, which had closely cooperated with the Communists, and the Socialist Workers Party under the leadership of Giuseppe Saragat became permanent. The Socialist Party under Pietro Nenni formed a Popular Front with the Communist Party in the April elections and together this Popular Front won 30 percent of the seats in the Lower Chamber, although of 178 seats captured by the two parties, the Socialists secured but 36. The Saragat Socialists received 7 percent of the votes cast and won 33 seats. The Christian Democrats under DeGasperi formed the Cabinet, in which the Saragat Socialists were represented by several members. In July, the Socialist party in its convention criticized Nenni for following too closely the leadership of the Communist Party. It also accepted the Marshall Plan "as a reality it is useless to fight."

In Austria, in Central Europe, Dr. Karl Renner, Socialist, remained President of the Republic, and Socialists and the People's Party still divided political power almost equally. The Socialists remained in control of the strong trade union movement.

In Germany, Socialists in the Russian sector became completely merged with the Communists as an organized force in the Socialist Unity Party. In the western sector, the Social Democrats in the late fall won a majority of seats in the municipal council of the non-communist portion of Berlin; controlled the government in lower Schleswig-Holstein, and, in other parts of the British, French, and American zones, competed with the Christian Democrats for political leadership.

In Switzerland, a Socialist, Ernest Nobs, was elected by Parliament, in December, President of the Swiss Confederation, the first time a member of the Social Democratic Party ever held that office.

Throughout Europe the democratic Socialists held several international conferences to consider their common problems. In December, the Committee on International Socialist Conferences delivered an ultimatum to the Italian Socialist Party to terminate its association with the Communist Party of Italy by the middle of March, 1949. The Committee maintained that it had failed to understand the "fundamental incompatibility of democratic socialism and totalitarian communism." Unless it gave "clear proof" of its willingness to reunite with the Right Wing of the Italian Socialist movement on the basis of a program acceptable to international socialism, the party would be expelled from the international organization.

On the American continent, the Cooperative Commonwealth Federation of Canada, among the Socialist parties, made substantial progress. It increased its parliamentary representation from 28 to 31 in the year's by-elections. The party, under the leadership of Prime Minister T. C. Douglas,

was again returned to power in Saskatchewan as a result of a June election in which the C.C.F. won 31 out of 50 seats in the provincial legislature against the combined opposition in most districts of the Liberal and Progressive-Conservative parties. In Ontario the party increased its representation in the provincial legislature from 8 to 22, and again became the official opposition.

In the United States, Norman Thomas ran for the sixth time as the party's standard bearer for President of the United States, with Tucker Smith as candidate for Vice President. Thomas and Tucker received a vote of 140,260 as compared with a vote of 80,426 in 1944. In Milwaukee, Wis., a Socialist, Frank P. Zeidler, was elected mayor. In Bridgeport, Conn., the party, headed by Mayor Jasper McLevy, voted to reaffiliate with the Socialist Party U.S.A. The Socialist Party U.S.A. throughout the year urged the formation of an independent party of industrial workers, farmers, and others along lines similar to that of the Canadian C.C.F.

In Latin America, Socialist progress was impeded by restrictive legislation in several countries, especially in Venezuela and Peru, where military coups ousted democratic governments, and in Argentina, where the Peron dictatorship strengthened its hold on the country.

In the East, the Labour Government in Australia continued in office with a representation in the lower house of Parliament of 43 out of 75. During the year the Government initiated legislation empowering the Government-owned Commonwealth Bank to acquire the assets and liabilities of all privately-owned banks, some of which were British-owned. In August, several of the provisions of this act were declared invalid, and an appeal was taken to the Privy Council in London. In New Zealand, the Labour Government, backed by a slim majority of 42 out of 80 parliamentary members, continued to carry out its postwar program of social change. During the year, the representatives of both countries played conspicuous parts in the councils of the United Nations.

In Japan, Tetsu Katayama, leader of the Socialist Party, which held the largest representation in the Japanese Lower House (140 out of 466), continued as Premier until March, 1948, when he resigned during a controversy over the raising of postal and railway rates as a means of raising the budget. In the coalition government of Premier Ashida that succeeded, several Socialists served until its dissolution in October. The party refused to join the succeeding Yoshida conservative Cabinet and joined the opposition parties. The controversy within the party as to how actively its leadership should work legislatively for a program of socialization resulted in the secession of several Socialist Diet members.

In India, despite the Socialist persuasion of Prime Minister Pandit Jawaharlal Nehru, leader of the Congress Party, the Socialist Party of India broke more clearly from the Congress Party during the year, and, in its April convention, instructed all of its members to withdraw from the Congress Party and from any government job to which they had been elected on the Congress ticket. The party congress declared that there were anti-democratic forces in the Congress Party, and that the Socialist Party was needed as a bulwark of democracy. Distinguishing itself sharply from the Communist Party, it declared that the Communists were "a grave source of danger, because they pursue their ends with little regard to the stability and integrity of the state." During the year Socialists helped in

the formation of an Indian Labor Congress.

The Indian Government during the year adopted a plan for nationalization, and in April declared its intention to run the railways, generate and distribute electricity, manufacture arms and control atomic energy, and, except in special cases, be exclusively responsible for the establishment of new undertakings in the fields of coal mining, iron, steel, and aircraft manufacture; shipbuilding; and the production of telephone, telegraph, and wireless apparatus. Existing undertakings in numerous of these fields would be reviewed and a decision made as to their future control.

In Burma, Thakia Nu, Socialist, and leader of the Anti-Fascist People's Freedom League, continued as Premier. He helped in the organization of a United Left Party, which aimed "at the creation of a Socialist state by democratic means." The Burma Government during the year was called upon to suppress a Communist insurrection.

In Indonesia, the Socialistic Soekarno-Hatta Republican Government was confronted with a Communist rebellion in September, which it quickly suppressed. In early October, and in December it was overwhelmed by the Dutch troops.

In the Near East, the Palestine Labor Party and the United Labor Party, with socialistic programs, became the dominating force in the newly established Israel Government.

Within the United Nations Socialist and Labor statesmen of the type of Trygve Lie of Norway, Spaak of Belgium, Evatt of Australia, Nash of New Zealand, and the various representatives of the British Labour Government, played a conspicuous part in the formation of UN policy. Socialist parties in general supported the Marshall Plan and plans for regional federations for the promotion of peace. During the year, the British Labour Government acted as host (October 11-22) to the Prime Ministers from the British Commonwealth of Nations, and tackled problems of mutual interests. The Conference, consisting of representatives of countries embracing one-fourth the area of the world, and committed, in major part, to a large degree of publicly owned industry, maintained, among other things, that "freedom must be safeguarded not only by military defensive measures but also by advancing social and economic welfare."

Throughout the world, Socialists gave increasing attention in 1948 to the problem of how to avoid bureaucracy and regimentation under public ownership and to the working out of techniques for democratic control. They insisted that economic security should not be bought at the expense of freedom.

—NORMAN THOMAS and HARRY W. LAIDLER

SOCIAL SECURITY ADMINISTRATION. The Social Security Administration, one of the four operating units of the Federal Security Agency, has Federal responsibility for all programs now operating under the Social Security Act. The responsibility is carried out through four program bureaus. The Bureau of Old-Age and Survivors Insurance administers the old-age and survivors insurance system. This is the only completely Federal program under the act. In the other three programs, the Federal Government cooperates with States in financing various State and community programs operating under State law and State administration.

Federal responsibilities for these three Federal-State programs are carried by the Bureau of Employment Security (for unemployment insurance and employment services), the Bureau of Public Assistance (for old-age assistance, aid to the blind,

and aid to dependent children), and the Children's Bureau (for maternal and child health services, services for crippled children, and child welfare services). A fifth program bureau—the Bureau of Federal Credit Unions—was established in the Social Security Administration on July 29, 1948, when administration of the Federal Credit Union Act was transferred from the Federal Deposit Insurance Corporation to the Federal Security Agency. On July 1 the United States Employment Service was transferred to the Agency from the Department of Labor and placed in the Bureau of Employment Security.

In addition to the programs under the Social Security Act there are various other provisions, operating under Federal or State laws, that ensure basic protection against the major risks to economic security or that furnish health and welfare services to different groups of the population. Among these social insurance and related programs are workmen's compensation for industrial accidents and diseases; various provisions for veterans, including disability and old-age pensions and compensation, comprehensive medical care, and benefits for their survivors; retirement, disability, and survivor protection for railroad workers and civilian employees of the Federal Government; and retirement and, in certain instances, disability protection for employees of State and local governments, certain nonprofit organizations, and other occupational groups. In terms of the number of persons in the population immediately or potentially affected, however, the largest segment of this broad social security program is that under the Federal Social Security Act and related State legislation.

PAY ROLLS IN EMPLOYMENTS COVERED BY FEDERAL OLD-AGE AND SURVIVORS INSURANCE AND BY STATE UNEMPLOYMENT INSURANCE PROGRAMS, CALENDAR YEARS 1946-47

[In millions]

Program and Item	1946	1947
Old-age and survivors insurance:		
Pay rolls covered during year.....	\$70,260	\$82,600
Contributions collected during year....	\$1,395	\$1,557
Trust fund assets at end of year.....	\$8,150	\$9,300
Workers with wage credits during year..	49.1	49.2
Living workers with insured status at beginning of year.....	40.3	41.6
State unemployment insurance:		
Pay rolls covered during year.....	\$73,403	\$86,434
Contributions collected during year....	\$912	\$1,095
Trust fund assets at end of year.....	\$0,775	\$8,124
Workers with wage credits during year..	45.5	45.6

All these programs operated during 1948 in a setting of full employment, a record peacetime production of goods and services, and rising prices. Fewer workers were without jobs than in the preceding year. Earnings were higher, and the aggregate volume of savings increased. Prices were also at a record high, increasing more rapidly than did wages or industrial production. Even in a vigorously functioning economy, however, some firms will fail and plants will be shut down for reorganization or retooling or because of shortages of raw materials. As a result, several million wage earners are thrown out of jobs during the course of a year. In 1948, about 2,100,000 were unemployed on the average, or about the same number as in 1947.

No comprehensive changes were made in the Social Security Act during 1948 although numerous bills were introduced in the second regular session of the Eightieth Congress and some amendments were passed. In one of the amendments, Congress recognized the threat of rising prices to family security by increasing the amount the Federal Government will contribute toward public as-

sistance payments. This increase in Federal participation, the second in two years, enabled States and local communities to raise the amount of the individual monthly payments (which come from local, State, and Federal funds) and in some instances to assist needy persons and families that otherwise could not have been aided because of limited State and community funds. The monthly benefit amounts payable under Federal old-age and survivors insurance, on the other hand, remained geared to the levels fixed in 1939, despite the rise of some 70 to 75 percent in living costs since that year.

The Advisory Council on Social Security, created in 1947 by the Senate Committee on Finance to assist and advise the Committee in studying the present programs under the act, issued four reports. In the first, the Council recommended extension of coverage under old-age and survivors insurance to all employments and liberalization of benefit amounts, as well as other changes to strengthen the present program.

The second report recommended the adoption of an insurance program, coordinated with old-age and survivors insurance and covering the risks of wage loss from permanent and total disability. The third report recommended certain changes that should be made in the public assistance programs if the preceding recommendations are accepted and embodied in legislation. In the fourth report, issued at the end of 1948, the Council dealt with unemployment insurance, recommending, among other changes, extension of coverage to small firms and to certain of the occupational groups now excluded and changes in methods of financing the system.

Old-Age and Survivors Insurance. Federal old-age and survivors insurance provides retirement benefits at age 65 to workers in industry and commerce and supplementary benefits to their aged wives and dependent children; it also provides survivor benefits to the widows and children, or dependent parents, of deceased insured workers. The benefits, financed by the contributions of the workers and their employers, are based on the insured status of the worker, which is determined by the wages he has earned in jobs covered by the program and the amount of time he has spent in such jobs. An estimated 49.2 million persons worked at some time during the calendar year 1947 in covered employment. They earned wage credits totaling \$76,700 million or an annual average of \$1,559 per worker. Both in number and amount these totals were larger than in any previous year.

At the beginning of 1948, about 42.5 million persons had sufficient wage credits to be either fully or currently insured, which meant that, if they died, their dependent survivors would be protected under the program. About 11.6 million of the 42.5 million were permanently insured throughout their lifetime, without further covered employment. Of those permanently insured wage earners, approximately 1,800,000 were aged 65 or over and eligible for retirement benefits, and 875,000 of them had withdrawn from covered employment and were receiving monthly benefits. The majority of the persons who had some wage credits but were not insured had worked in covered employment in too few calendar quarters to gain insurance protection. The cumulative amount of taxable wages these uninsured workers had received was comparatively small.

In June, 1948, monthly benefits were being paid at a monthly rate of \$42,400,000 to nearly 2,200,000 persons, representing 1,500,000 different fami-

BENEFICIARIES, RECIPIENTS, AND PAYMENTS UNDER FEDERAL OLD-AGE AND SURVIVORS INSURANCE, STATE UNEMPLOYMENT INSURANCE LAWS, AND STATE PUBLIC ASSISTANCE PROGRAMS UNDER THE SOCIAL SECURITY ACT, BY STATE

State	Old-age and survivors insurance monthly benefits, June 30, 1948		Unemployment insurance under State laws		Old-age assistance		Public assistance under the Social Security Act, June 1948			Add to the total	
	Number	Amount	Beneficiaries ^a	Average weekly benefit for total unemployment	Number of recipients	Average payment	Families	Number of recipients	An. payment per family	Number of recipients	Average payment
Total	2,162,700	\$42,961,000	8,820,774	\$18.19	2,367,597	\$38.18	449,154	1,145,816	\$66.21	65,707	\$41.18
Alabama	32,000	493,000	11,304	11.77	6,719	19.44	10,634	28,915	33.05	1,105	22.05
Alaska	7,800	13,000	3,013	23.26	1,391	43.69	228	339	31.73	(c)	(c)
Arizona	7,800	13,000	3,013	18.39	10,777	47.73	2,461	7,154	30.10	660	56.64
Arkansas	15,400	228,000	5,036	13.15	18,257	18.19	6,496	21,499	35.30	1,631	21.01
California	101,600	3,398,000	10,100	12.81	18,967	57.09	16,199	37,915	109.94	7,404	72.56
Colorado	16,500	313,000	8,100	12.81	15,505	63.50	2,000	19,578	76.91	388	52.15
Connecticut	42,500	943,000	10,007	12.70	15,505	48.75	2,000	7,409	100.77	150	44.44
Delaware	8,400	142,000	13,279	12.69	2,811	26.07	366	1,935	72.79	127	30.69
Dist. of Columbia	38,300	793,000	47,701	13.41	8,383	40.33	1,311	10,103	75.36	219	44.36
Florida	38,700	793,000	37,281	13.41	8,383	32.99	1,311	10,103	42.01	2,861	39.47
Georgia	52,400	1,040,000	47,701	13.41	8,383	32.99	1,311	10,103	36.85	2,339	22.67
Hawaii	5,600	104,000	5,618	28.37	10,122	43.81	1,311	1,411	83.82	78	35.67
Idaho	136,000	2,825,000	27,822	18.31	30,637	32.94	2,002	3,293	87.21	199	47.75
Illinois	81,700	1,486,000	15,517	13.13	18,693	30.53	8,114	20,976	87.40	4,642	42.97
Indiana	27,300	367,000	19,761	11.91	3,531	19.04	1,577	12,422	72.53	1,901	35.09
Iowa	20,800	339,000	31,107	11.91	3,531	30.53	1,577	12,422	41.71	1,207	46.49
Kentucky	33,900	558,000	43,240	13.17	30,903	22.87	1,577	3,531	37.46	1,880	20.68
Kansas	23,500	373,000	33,815	13.17	30,903	33.49	2,000	7,154	40.57	1,643	28.11
Maine	19,900	282,000	7,615	18.31	11,811	33.20	2,000	7,154	78.30	678	38.79
Maryland	31,000	597,000	26,340	22.13	8,763	55.26	10,330	27,171	102.49	1,257	55.09
Massachusetts	107,400	2,282,000	2,310	20.08	6,941	38.82	2,119	12,422	77.70	1,522	43.87
Michigan	96,100	1,974,000	2,310	13.08	6,941	44.04	2,119	12,422	68.75	1,053	51.00
Minnesota	32,700	611,000	80,235	12.15	19,983	15.79	3,531	5,773	26.29	2,132	24.08
Mississippi	12,900	179,000	81,089	6.93	16,813	39.74	2,000	1,913	40.19	(c)	(c)
Missouri	61,500	984,000	7,761	16.03	16,813	37.54	2,000	1,913	71.11	444	41.84
Montana	6,700	591,000	6,358	13.00	2,991	48.70	3,211	1,004	71.65	522	46.03
Nebraska	11,300	37,000	1,800	19.83	2,169	40.00	1,109	3,010	51.61	(c)	(c)
Nevada	1,800	2,800	19,876	15.37	6,893	40.00	1,109	3,010	51.61	(c)	(c)
New Hampshire	11,900	2,280,000	2,310	16.22	6,941	42.92	1,109	12,598	30.00	692	42.31
New Jersey	91,100	1,981,000	2,310	10.63	6,941	35.79	1,109	12,598	25.44	836	46.97
New Mexico	4,300	67,000	6,311	9.63	6,823	49.44	1,109	105,810	101.13	8,546	25.44
New York	287,200	5,313,000	6,311	11.10	11,163	18.19	9,391	26,579	37.23	8,271	29.36
North Carolina	36,100	77,000	51,808	17.96	5,686	40.76	1,917	4,465	57.23	1,231	42.73
North Dakota	2,700	140,000	1,717	17.47	1,278	42.41	0	29,571	70.27	39,611	42.82
Ohio	140,500	2,840,000	101,686	16.27	12,781	44.72	2,119	58,702	11.17	3,886	50.57
Oklahoma	19,600	340,000	29,952	16.27	8,811	38.84	1,109	7,136	81.03	(c)	(c)
Pennsylvania	340,000	5,307,000	48,307	16.57	22,701	43.84	2,119	103,646	27.93	1,111	46.33
Rhode Island	21,300	301,000	27,167	17.21	8,811	38.84	1,109	17,302	27.93	1,111	46.33
South Carolina	18,900	265,000	21,308	11.70	5,176	19.81	1,109	4,522	32.40	3,097	30.97
South Dakota	3,700	110,000	2,655	13.40	1,294	33.63	1,109	41,767	64.30	1,111	46.33
Tennessee	34,300	1,040,000	6,104	13.40	1,294	33.63	1,109	41,767	36.09	1,111	46.33
Texas	1,037,000	1,037,000	2,310	22.52	2,310	31.41	2,310	7,770	17.63	7,770	61.58
Utah	8,000	117,000	1,811	22.52	2,310	31.41	2,310	7,770	17.63	7,770	61.58
Vermont	6,900	124,000	7,239	16.83	3,311	33.41	1,109	2,922	48.11	1,111	46.33
Virginia	33,600	601,000	12,728	18.31	1,109	33.41	1,109	15,053	41.53	1,111	46.33
Washington	31,400	874,000	94,211	18.07	1,109	57.17	1,109	20,433	96.24	21,811	69.77
West Virginia	33,100	15,311,000	1,109	15.31	1,109	20.41	1,109	30,941	40.85	1,111	25.55
Wisconsin	18,500	632,000	3,293	17.28	2,310	37.47	1,109	19,932	85.71	1,111	38.87
Wyoming	2,000	1,000	2,721	18.51	3,211	49.1	1,109	1,111	89.81	1,111	48.78
Foreign	7,700	15,400									

^a Based on number of first payments. ^b No plan in operation. ^c No plan in operation under the Social Security Act.

lies. More than half the beneficiaries were retired workers (969,000) and their aged wives (297,000); about one-fourth (557,000) were children, mainly the children of deceased workers; and the

MONTHLY BENEFITS FOR FAMILIES IN RECEIPT OF BENEFITS UNDER FEDERAL OLD-AGE AND SURVIVORS INSURANCE PROGRAM, END OF JUNE, 1948
[In thousands, except for average benefit; data corrected to Sept. 8, 1948]

Family classification of beneficiaries ^a	Number of families	Number of beneficiaries	Average family benefit
Total	1,476.2	2,162.7	....
Retired worker families	968.7	1,389.3	....
Worker only	654.5	654.5	\$24.40
Male	519.4	519.4	25.60
Female	135.1	135.1	20.00
Worker and wife	296.5	593.0	39.90
Worker and 1 child	11.6	23.2	38.90
Worker and 2 or more children	5.9	18.0	47.90
Worker, wife, and 1 or more children	.2	.6	54.80
Survivor families	507.5	873.3	....
Aged widow only	188.6	188.6	20.50
Widowed mother only ^b	4.4	4.4	20.30
Widowed mother and 1 child	72.0	144.0	35.90
Widowed mother and 2 children	40.9	122.6	49.20
Widowed mother and 3 or more children	23.5	95.0	52.60
1 child only	89.4	89.4	13.30
2 children	40.6	81.1	25.80
3 children	16.7	50.0	36.60
4 or more children	21.2	86.6	48.10
1 aged parent	9.3	9.3	13.70
2 aged parents	.9	1.7	25.70

^a As defined by beneficiaries in current payment status.

^b Benefits of child or children were being withheld.

rest were aged widows (189,000), young widows with children (141,000), and aged dependent parents (11,000) of deceased workers. June expenditures represented an average monthly benefit of \$25.60 for a retired man with no dependents receiving benefits, and \$39.90 for a man and his wife. For survivor families, the average benefit was \$20.50 for aged widows and \$35.90 for a family consisting of a widowed mother and one child, both receiving benefits.

Some \$499,300,000 was paid out under the program during the fiscal year 1947-48 for monthly benefits and \$31,300,000 for lump sums, payable when the deceased insured wage earner leaves no dependents immediately eligible for monthly benefits. Employers and employees contributed \$1,616,000,000 under the Federal Insurance Contributions Act, and at the end of June, 1948, the assets of the old-age and survivors insurance trust fund amounted to \$10,047,000,000. Under legislation enacted in 1947 the contribution rates, now 1 percent each for employers and employees, are scheduled to rise to 1.5 percent each in 1950 and to 2 percent each in 1952 and thereafter.

Benefits to survivors of veterans of World War II who die within 3 years of their discharge from the armed forces first became payable in September, 1946. These benefits are payable only to survivors not receiving or not eligible for payments under other veterans' legislation. For the fiscal year 1947-48, \$2,300,000 was certified for monthly benefits to such survivors, and \$1,200,000 in lump sums.

Under an amendment to the Railroad Retirement Act, survivor benefits based on combined earnings from both railroad employment and employment covered under the Social Security Act became payable Jan. 1, 1947. During the 1948 fiscal year, the survivors of more than 11,500 deceased workers who had such combined earnings were awarded benefits under old-age and survivors insurance. In addition, survivors of approximately

1,700 workers had their benefits recomputed to include railroad earnings of the deceased wage earner.

Unemployment Insurance. State unemployment insurance laws—in operation in the 48 States, the District of Columbia, Alaska, and Hawaii—cover workers in industry and commerce. The benefits are financed through contributions made to the State by employers—and, in two States, by employees also. The Federal Government does not share the cost of the benefits to unemployed workers but does bear the entire cost incurred by the State in administering the program. The benefits are payable to an unemployed worker who qualifies on the basis of his previous employment and for whom suitable job openings cannot be found. The amount of the weekly payment and the length of time the worker can draw benefits are determined by the provisions of the State law.

Although State unemployment insurance systems cover approximately the same types of employment as does old-age and survivors insurance, not all States cover small firms—those with less than eight employees. For this reason an estimated 47,600,000 workers earned some wage credits under the unemployment insurance system in the calendar year 1947 as against the 49,200,000 who earned credits under old-age and survivors insurance. About four-fifths of the former group, or 37 million, earned sufficient wage credits to qualify for unemployment benefits.

In relation to the number of wage earners covered by the State systems the number of unemployed persons who filed claims for unemployment benefits was low throughout 1948. Not all persons who filed claims receive benefits. Of the 4,700,000 workers who filed claims and had sufficient wage credits to qualify for benefits during the 1948 fiscal year, about 3,800,000 or 79 percent drew some benefits. Some of the others who did not receive benefits were declared unavailable for work or were disqualified for various reasons, but by far the greater proportion of them were reemployed during the waiting period before benefit payments began.

The States paid out a total of \$752,500,000 in benefits during the fiscal year. This figure was about 90 percent of the amount disbursed in the 1947 fiscal year. The average weekly benefit for the country as a whole was \$18.19, but the State averages varied widely, ranging from \$11.10 in North Carolina to \$23.26 in Alaska.

Five States—Connecticut, the District of Columbia, Massachusetts, Michigan, and Nevada—supplemented the unemployment benefit by small additional allowances for the dependents of claimants. Claimants whose unemployment was caused by temporary disability received benefits in Rhode Island and California. In June, 1948, New Jersey also enacted a temporary disability insurance law for workers covered by its unemployment insurance law, and payments began Jan. 1, 1949.

Contributions collected under the State laws totaled \$1,007 million in the fiscal year, and the unemployment trust fund earned interest of \$147 million, bringing the State balances in the fund to \$7,400 million at the end of June, 1948. Amounts collected and deposited in the unemployment trust fund can be used only for benefit payments, and administration of the State programs is financed by the Federal Government. During the year the States received \$67,200,000 in Federal grants for administration.

Protection against wage loss from unemployment was also available to railroad employees under the

PAYMENTS TO INDIVIDUALS UNDER FEDERAL OLD-AGE AND SURVIVORS INSURANCE, STATE UNEMPLOYMENT INSURANCE LAWS, AND STATE PUBLIC ASSISTANCE PROGRAMS UNDER THE SOCIAL SECURITY ACT, FISCAL YEARS 1937-48, AND BY STATE, FISCAL YEAR 1948^a
[In thousands]

Fiscal year:	Fiscal year and State	Old-age and survivors insurance payments ^b		Unemployment insurance benefits ^d	Public assistance payments		
		Monthly benefits	Lump-sum payments ^c		Old-age assistance	Aid to dependent children	Aid to the blind
1937.....			\$ 60	\$ 964	\$ 243,220	\$ 40,774	\$ 8,981
1938.....		5,856		179,847	360,626	81,062	11,355
1939.....		14,315		444,235	411,496	103,178	11,906
1940.....		\$ 6,421 ^e	11,188	482,507	449,969	118,875	12,820
1941.....		57,462	12,715	432,416	505,063	141,026	13,725
1942.....		102,248	14,242	369,745	568,631	154,879	14,878
1943.....		139,139	16,595	176,095	616,569	148,747	16,300
1944.....		173,281	19,156	60,994	679,320	135,156	18,468
1945.....		224,752	25,887	71,209	701,951	138,084	19,802
1946.....		311,017	26,044	1,091,062	761,587	172,800	21,409
1947.....		406,252	28,501	833,718	910,330	254,415	25,810
1948.....		499,315	31,280	752,537 ^f	1,037,554	325,691	30,531
Alabama.....		5,799	327	7,683	13,474	3,604	265
Alaska.....		187	20	1,095	680	87	(g)
Arizona.....		1,555	72	1,420	6,114	1,407	437
Arkansas.....		2,084	147	3,552	9,072	3,454	303
California.....		30,541	2,230	128,595	122,765	17,249	5,797
Colorado.....		3,589	200	1,118	35,440	3,039	231
Connecticut.....		11,115	657	11,472	8,166	3,035	68
Delaware.....		1,380	71	872	377	283	44
District of Columbia.....		1,934	159	2,985	1,097	1,133	112
Florida.....		8,379	405	6,351	26,153	7,530	1,289
Georgia.....		5,452	373	5,675	16,784	3,083	570
Hawaii.....		1,111	31	768	774	1,290	34
Idaho.....		1,201	75	1,398	5,217	1,718	114
Illinois.....		32,698	2,704	47,641	60,932	21,698	2,377
Indiana.....		13,826	869	8,330	19,215	4,697	773
Iowa.....		5,818	327	2,415	24,017	3,544	650
Kansas.....		4,450	217	3,020	16,560	4,239	463
Kentucky.....		6,484	368	4,365	10,478	4,096	405
Louisiana.....		4,607	323	5,965	14,033	6,373	512
Maine.....		4,346	226	4,630	5,507	1,033	278
Maryland.....		7,090	482	9,842	4,537	4,065	194
Massachusetts.....		26,472	1,471	50,624	56,698	11,048	772
Michigan.....		23,219	1,538	35,928	41,539	10,428	728
Minnesota.....		7,574	426	5,180	27,007	5,239	600
Mississippi.....		2,011	141	2,151	7,807	1,750	608
Missouri.....		11,684	709	14,426	48,202	9,726	(h)
Montana.....		1,555	90	1,275	5,070	1,502	208
Nebraska.....		2,466	160	959	11,511	2,824	257
Nevada.....		419	44	1,133	1,228	(i)	(i)
New Hampshire.....		2,607	131	3,035	3,143	1,115	146
New Jersey.....		23,439	1,582	52,142	11,475	4,270	324
New Mexico.....		765	40	580	3,612	2,571	184
New York.....		63,300	4,405	169,884	64,763	52,587	2,258
North Carolina.....		6,220	445	5,832	9,082	3,575	1,007
North Dakota.....		564	32	342	4,145	1,545	59
Ohio.....		34,199	2,155	19,753	59,518	7,850	1,527
Oklahoma.....		4,132	210	4,600	48,072	12,732	1,314
Oregon.....		6,080	209	7,618	11,082	2,755	222
Pennsylvania.....		51,202	2,871	49,519	37,209	35,661	(j)
Rhode Island.....		4,543	246	12,348	4,360	2,492	75
South Carolina.....		3,086	234	3,186	7,608	1,634	338
South Dakota.....		777	52	259	4,700	965	76
Tennessee.....		5,440	381	10,614	12,627	7,059	682
Texas.....		12,100	887	5,477	72,689	7,438	2,224
Utah.....		1,683	78	2,436	6,116	3,118	88
Vermont.....		1,405	70	1,233	2,332	421	82
Virginia.....		6,963	435	4,250	3,533	2,398	331
Washington.....		10,767	509	18,472	41,313	9,120	500
West Virginia.....		6,067	312	5,302	5,204	5,137	246
Wisconsin.....		11,291	751	4,127	20,041	7,255	588
Wyoming.....		584	35	352	2,254	407	63
Foreign.....		1,955	159				

^a Fiscal years ended June 30. ^b Represents payments certified. State distribution estimated; data for beneficiaries residing in foreign countries included in fiscal-year totals, not distributed by State. ^c Fiscal-year totals represent payments under the 1935 act and under the 1939 and 1948 amendments. State distribution excludes payments under 1935 act. ^d Adjusted for refunds of contributions and for voided benefit checks. ^e January-June 1940, since monthly benefits were not payable before 1940. ^f Excludes \$3,278,904 reconversion unemployment benefits paid to seamen. ^g No plan in operation. ^h No plan in operation under the Social Security Act.

Railroad Unemployment Insurance Act, and to unemployed veterans under the Servicemen's Readjustment Act.

Public Assistance. The public assistance programs under the Social Security Act provide monthly payments to three specific groups of needy individuals—the aged, the blind, and children deprived of necessary support or care because of a parent's death or absence from home. These programs are financed and administered by States or States and localities, and the Federal Government participates in the amount of assistance, within certain maximums, and in the administrative

costs of the programs. During 1948, old-age assistance programs operated with Federal financial participation in all 48 States, the District of Columbia, Alaska, and Hawaii; all States but one received Federal funds for aid to dependent children, and all but four States had approved programs for aid to the blind.

The continued upswing in consumer prices has worked hardship for all groups in the population but the effects have been most acute among persons with very small incomes. The increase in the Federal share of assistance payments made it possible for a State to raise payments \$5 per recipient

of old-age assistance and aid to the blind and \$3 per child receiving aid to dependent children provided the State continued to spend as much per recipient from its own funds as before.

In June, 1948, nearly 2,400,000 persons aged 65 or over were receiving old-age assistance, at an average payment of \$38 during the month. Nearly 1,150,000 children in 450,000 families were receiving aid to dependent children, at an average pay-

ment of \$26 per child and \$66 per family. Nearly 66,000 blind persons received assistance at an average payment of \$41. It should be remembered that these figures on average payments relate to the country as a whole.

Averages by State show wide differences that reflect both the ability of States and localities to finance assistance and the standards prevailing in the State. Another factor in the variations from State to State is the coverage limitation on old-age and survivors insurance. Since coverage under the insurance program excludes agricultural labor, the predominantly agricultural States have more assistance recipients in relation to total State population

and to insurance beneficiaries than do the industrial States.

Other needy persons who cannot qualify under one of these special assistance programs are cared for by general assistance, financed by States and localities without Federal participation. In June, 1948, about 366,000 cases were receiving general assistance, at an average payment of \$43 per case. Since a case may represent a single individual or

BENEFICIARIES, RECIPIENTS, AND PAYMENTS UNDER SELECTED SOCIAL SECURITY AND RELATED PROGRAMS, FISCAL YEARS 1940, 1943, 1945, 1947, AND 1948^a
(In thousands; corrected to Dec. 27, 1948)

Program	1940	1943	1945	1947	1948
Beneficiaries under social insurance and related programs, June					
Retirement, disability, and survivor programs: ^b					
Old-age and survivors insurance	95.5	676.3	1,106.0	1,832.3	2,162.7
Railroad retirement	144.3	160.0	171.5	231.2	320.2
Federal employee systems:					
Civil service	62.7	74.8	88.0	112.6	129.1
Other contributory ^c	.6	.8	1.0	1.2	(^e)
Noncontributory ^d	32.2	30.6	37.6	65.6	74.7 ^d
State and local employee systems ^e	152.3	182.6	208.0	240.0	(^e)
Veterans' pensions and compensation	928.7	937.8	1,681.5	3,251.1	3,249.2
State sickness compensation ^f		6.0	7.1	25.8	28.3
Workmen's compensation	(^g)	(^g)	(^g)	(^g)	(^g)
Unemployment insurance programs:					
State unemployment insurance ^h	1,268.6	100.3	129.4	973.9	893.1
Railroad unemployment insurance ^h	31.4	.7	.8	39.5	30.9
Veterans' unemployment allowances ⁱ			31.8	712.9	371.8
Self-employment allowances to veterans ^j			10.6	241.7	104.6
Recipients of public assistance, June					
Public assistance programs: ^k					
Old-age assistance	1,969.7	2,170.1	2,038.4	2,271.0	2,367.6
Aid to dependent children:					
Children	835.0	746.2	646.8	1,009.5	1,145.8
Families	347.4	304.1	255.7	396.1	449.2
Aid to the blind	71.6	77.6	71.1	79.0	83.3
General assistance	1,354.0	354.3	233.7	335.4	366.0
Subsistence payments to farmers	60.0	...	...	...	...
Payments under social security and related programs, fiscal year ended June					
Total	\$2,627,679	\$2,481,278	\$2,942,713	\$7,089,504	...
Retirement, disability, and survivor programs ^b	985,816	1,275,159	1,785,940	835,912	...
Old-age and survivors insurance	16,852	155,735	250,638	409,251	497,575
Railroad retirement	114,025	130,864	142,528	173,101	224,871
Federal employee systems	119,551	127,196	158,486	253,560	...
Civil service	65,370 ^b	77,636	91,563	117,129	129,698
Other contributory ^c	872	1,176	1,495	1,791	(^e)
Noncontributory ^d	53,309	48,384	65,428	134,640	160,600 ^d
State and local employee systems ^e	141,500	168,900	193,000	215,000	(^e)
Veterans' pensions and compensation ^f	432,888 ^b	446,628	744,338	1,934,226	2,105,682 ^d
State sickness compensation ^f		836	4,950	13,511	23,730
Workmen's compensation ^g	246,660	344,420	401,320	433,000	(^g)
Unemployment insurance programs	497,317	177,848	92,656	2,046,885	1,493,675
State unemployment insurance	482,507	176,095	71,209	833,718	757,728
Railroad unemployment insurance ^h	14,810	1,753	728	46,617	59,080
Veterans' unemployment allowances ⁱ			20,719	1,166,550	552,344
Self-employment allowances to veterans ^j			3,436	268,768	124,473
Public assistance programs ^k	1,058,886	928,851	951,368	1,342,202	1,584,700
Old-age assistance	449,969	616,569	701,951	910,330	1,037,554
Aid to dependent children	123,366	149,962	138,533	254,547	325,710
Aid to the blind	21,206	24,879	25,339	33,477	38,540
General assistance	444,450	137,441	85,545	143,848	182,895
Subsistence payments to farmers	19,895	...	...	...	...

^a Excludes Federal work programs. ^b Beneficiaries represent persons receiving monthly benefits; exclude persons receiving lump-sum payments only. Payments include lump-sum death payments. ^c Data estimated; for 1948, not available. ^d Data for 1948 partly estimated. ^e Average weekly number. ^f Compensation for temporary disability payable in Rhode Island beginning in April 1943, and in California beginning December 1946. ^g Number not available. Payments primarily for calendar year; partly estimated; for 1948, not available. ^h Average number of persons receiving benefits for unemployment in a 14-day registration period. ⁱ Under Servicemen's Readjustment Act of 1944, effective September 1944. Average weekly number for unemployment and number during month for self-employment. ^j Data through 1942 for continental United States only. ^k Partly estimated.

ment of \$26 per child and \$66 per family. Nearly 66,000 blind persons received assistance at an average payment of \$41. It should be remembered that these figures on average payments relate to the country as a whole.

Averages by State show wide differences that reflect both the ability of States and localities to finance assistance and the standards prevailing in the State. Another factor in the variations from State to State is the coverage limitation on old-age and survivors insurance. Since coverage under the insurance program excludes agricultural labor, the predominantly agricultural States have more assistance recipients in relation to total State population

several persons in a family, the total number of individuals receiving general assistance was larger than the number of cases.

Expenditures during the fiscal year 1948 for all four programs, representing both assistance payments and costs of administration, amounted to \$1,700 million. Of this total, \$1,500 million represented expenditures from all sources—Federal, State, and local—for the three programs under the Social Security Act, and \$200 million represented expenditures by States and localities for general assistance.

Maternal and Child Health and Child Welfare Services. Federal grants under the Social Security Act

are made to States to help them extend and improve State and community services for mothers and children, especially in rural areas and areas suffering from severe economic distress. All 48 States and the District of Columbia, Alaska, Hawaii, Puerto Rico, and the Virgin Islands received Federal grants for these programs during 1948. To receive the grants, the State plan must meet certain requirements set forth in the Social Security Act and must match certain portions of the Federal funds.

Federal grants of \$11 million a year are authorized for maternal and child health services. The grants are made to State public health agencies whose responsibility it is to assist local health departments in developing and providing health services to children from birth through school age, and to mothers before and after childbirth. In general, the services are primarily preventive, designed to help well mothers and children keep well and to direct the sick ones to the care they need. Most frequently the services include prenatal clinics, child health conferences, home nursing visits, medical examinations in schools, and nutritional, dental, and mental health programs. Both in quality and quantity, the services vary considerably from State to State and from community to community.

During the calendar year 1947, medical services, financed in part with Federal funds, were given to about 152,000 women at prenatal clinics. About 234,000 mothers received nursing service during pregnancy, and after the baby's birth more than 40,000 received medical examinations and 215,000 received nursing service. Some 561,000 infants and preschool children attended well-child clinics in 1947, and public health nursing services reached more than 1,010,000. Physicians' examinations of school children totaled 1,862,000 and public health nursing visits, 2,200,000. Reports of immunization show an increase of diphtheria and a decrease of smallpox. About 55,000 preschool children and 1,600,000 school children received inspections by dentists or dental hygienists.

For services for crippled children, \$7,500,000 a year is authorized in Federal grants. This money goes to help States extend and improve their services for locating crippled children and for providing medical, surgical, corrective, and other services

children in the State. A child is eligible for registration if he has a type of crippling for which, according to the State plan, children may be accepted for care by the official State agency, and has had his crippling condition diagnosed by a licensed physician. The number of children on the different State registers varies widely. Some States do a much more thorough job of registration than others, and some are more careful in clearing their registers of children no longer eligible for care under the program.

At the close of 1947, some 474,000 children or an average of 9.6 per 100,000 population under age 21 were registered under the program. Approximately 168,000 children received one or more types of service during the year from official State agencies. Additional numbers of crippled children were, of course, under care of private physicians and other agencies though to what extent is not known.

Nearly 120,000 children received diagnostic or treatment service at crippled children's clinics in 1947, 29,000 children were hospitalized, 4,800 received convalescent-home care, and more than 850 received foster-home care. More than 71,000 children received public health nursing services, about 19,000 received physical therapy, and 27,000 had care from medical social workers. Various States operated special programs for the care of children with rheumatic fever and rheumatic heart disease, poliomyelitis, and cerebral palsy, and some provision was being made for surgical correction of visual impairments and for the care of children with hearing defects.

In the child welfare program, Federal grants totaling \$3,500,000 a year are authorized for State public welfare agencies to help in establishing, extending, and strengthening services for the protection and care of homeless and neglected children and children in danger of becoming delinquent. These community services include arranging for foster-home or institutional care for children who need care away from their own homes; protecting neglected and mistreated children; obtaining the necessary attention for children who have physical, mental, and emotional handicaps and are not receiving the care they need; safeguarding children of illegitimate birth; cooperating with courts and schools in handling children's cases and with State institutions that care for children; and working with mental hygiene clinics. Child welfare workers also aid in the organization of community services for children, including services to prevent juvenile delinquency.

At the end of 1947, about 230,000 children were receiving child welfare services from State and local public welfare agencies. About 41 percent of the children served were living with parents or other relatives, 40 percent were in foster family homes, and 19 percent were in children's institutions or elsewhere. Federal aid represented a small part of State and local resources devoted to the care of these children. (See PRISONS, PAROLE, AND CRIME CONTROL.) —ARTHUR J. ALTMEYER

EXPENDITURES FOR PUBLIC ASSISTANCE PAYMENTS AND ADMINISTRATION UNDER THE SOCIAL SECURITY ACT, FISCAL YEARS 1945-48*

Program and fiscal year	Amount (In 1,000's)	Percentage distribution		
		Federal funds	State funds	Local funds
Old-age assistance:				
1945.....	743,984	47.3	44.9	7.8
1946.....	806,472	46.2	46.3	7.5
1947.....	960,363	51.6	41.9	6.5
1948.....	1,093,947	51.8	42.0	6.2
Aid to dependent children:				
1945.....	151,398	36.4	46.3	17.3
1946.....	188,707	33.3	51.4	15.3
1947.....	275,704	38.6	49.1	12.3
1948.....	352,279	39.4	48.3	12.3
Aid to the blind:				
1945.....	21,729	47.4	39.3	13.3
1946.....	23,534	45.5	40.8	13.7
1947.....	28,206	49.9	38.6	11.4
1948.....	33,288	49.4	41.2	9.4

* Excludes Federal administrative expenses. Fiscal years ended June 30.

and care, and facilities for diagnosis, hospitalization, and after care, for children who are crippled or suffering from conditions that may lead to crippling.

All States maintained a register of crippled

SOCIETIES AND ORGANIZATIONS. The following is an alphabetical list of some of the leading national and international organizations. Certain classifications have been omitted because they are represented elsewhere in this volume. The reader is, therefore, referred to the following articles: for accrediting associations, to the article on UNIVERSITIES AND COLLEGES; for labor organizations, to LABOR CONDITIONS; for religious bodies, to the interdenominational groups below, and to the sepa-

rate articles on churches; for sports organizations, to articles on various sports. For foundations and trusts, government agencies, learned academies, and institutes, see separate articles. For official international organizations, see PAN AMERICAN ACTIVITIES and UNITED NATIONS, as well as various separate articles.

Academy of Medicine, Canadian, founded in 1907 to advance the art and science of medicine; promote and maintain an efficient library and museum; cultivate harmony and good feeling among its fellows; promote the corporate influence of the profession in relation to the community. Membership: 1,570. President, Dr. W. A. Burr; Treasurer, Dr. E. C. Fielden; Secretary, Dr. J. W. Ross. Headquarters: 288 Bloor St. W., Toronto 5, Canada.

Academy of Motion Picture Arts and Sciences, founded in 1927 to advance the arts and sciences of motion pictures and to foster cooperation among the creative leadership of the motion picture industry for cultural, educational, and technological progress. Membership: 1,911. President, Jean Hersholt; Secretary, Robert Montgomery; Treasurer, N. Peter Rathvon; Executive Secretary, Margaret Herrick. Headquarters: 9038 Melrose Ave., Los Angeles 46, Calif. Academy awards for the calendar year 1947 presented Mar. 20, 1948. See MOTION PICTURES.

Academy of Natural Sciences of Philadelphia, The, a research institution founded in 1812 and supported by voluntary gifts and bequests. Besides research laboratories, the Academy houses a free museum of natural history and a library in the natural sciences. The study collections of specimens in natural history exceed 8 millions. President, Charles M. B. Cadwalader; Managing Director, Dr. H. Radcliffe Roberts. Address: Nineteenth and the Parkway, Philadelphia 3, Pa.

Academy of Political Science, founded in 1880 to uphold the ideals of scholarship, scientific procedure, and impartial investigation in the fields of economics, politics, and public law. Membership, approximately 10,300. President, Lewis W. Dandies; Director (as of 1/1/49), Grayson L. Kirk; Treasurer, Sam A. Lewishin. Headquarters: Fayerweather Hall, Columbia University, New York 27, N.Y. Semi-Annual Meetings in 1948 held April 1 and November 10.

Actors' Fund of America, The, founded in 1882 to aid the aged, sick, and destitute of the theatrical profession. Membership: 3,025. President, Walter Vincent; Secretary, Robert Campbell; Treasurer, Vinton Freedley. Headquarters: 1619 Broadway, New York 19, N.Y. Annual meeting held at Coronet Theatre, New York, N.Y., on May 21, 1948.

Aero Medical Association, founded in 1929 as a non-profit organization (1) to advance the science and art of aviation medicine by stimulating investigation and study; by disseminating knowledge; (2) to establish and maintain cooperation between the medical and other sciences concerned with aeronautical development and progress. Membership: 1,000. President, 1948, Marion M. Kalez, M.D.; President, 1949, Willbur E. Kellum; Secretary-Treasurer and Business Manager, Thomas A. Sutherland, M.D. Headquarters, Office of the Secretary: 214 South State St., Marion, Ohio. The 1949 Annual Meeting will be held in New York, August 23-26. Theodore C. Lyster Award to Professor W. R. Franks; Raymond F. Longacre Award to Detlev W. Bronk.

Alcoholic Foundation, Inc., The, headquarters for Alcoholics Anonymous, founded in 1934 for the one purpose of helping the sick alcoholic recover if he wishes. Membership: 70,000; no officers. Headquarters: P.O. Box 459, Grand Central Annex, New York 17, N.Y.

Altrusa International, Inc., founded in 1917, is the oldest national organization of executive and professional women. In 1935 it became international. Membership is by invitation and is limited to one outstanding representative of each particular business or profession within the territory of an Altrusa Club. Membership: Approximately 8,000. President, Corinne V. Loomis; Executive Secretary, Hazel P. Williams. Headquarters: 332 South Michigan Ave., Chicago 4, Ill. Each of the 10 districts into which Altrusa is divided holds an annual conference. Next International Convention at Banff, Alberta, June, 1949.

Amateur Astronomers Association, Inc., founded 1927, to promote interest and foster education in the science of astronomy by a program of lectures, classes, outdoor observing, home-study course, telescope construction, inspection trips, and publication (*Astronomical News Service*). Membership: 650. President, Dr. C. S. Brainerd; Treasurer, H. T. Kirkby; Staff Editor, Jane S. Davis; Secretary, G. V. Plachy. Headquarters: Hayden Planetarium, New York 24, N.Y. Eight monthly lecture meetings, open to the public, are held at The American Museum of Natural History, New York, N.Y.

Amateur Athletic Union of U.S., founded in 1888 for the improvement and promotion of athletic sports among all amateurs. The Union consists of 77 allied and active associations covering the U.S. and the Territory of Hawaii. Membership: 80,000 individuals; 2,300 clubs, colleges, schools, and industrial athletic associations. President, James A. Rhodes; Secretary-Treasurer, Daniel J. Ferris.

Headquarters: 238 Broadway, New York 7, N.Y. District associations hold meetings in September and October. The annual convention is held in December.

American Academy in Rome, founded in 1894, incorporated by the U.S. Congress 1905, consolidated with the American School of Classical Studies in Rome 1913. Purpose: To promote the study and practice of the fine arts and the investigation of archaeology through the annual granting of Fellowships in architecture, the arts, history of art, and classical studies. President, James Kellum Smith; Director, Insurance P. Roberts; Executive Secretary, Mary J. Wilbur. Headquarters: 101 Park Ave., New York 17, N.Y., and Via dell'Academia 5, Rome, Italy.

American Academy of Arts and Sciences, founded in 1780 "to cultivate every art and science which may tend to advance the interest, honor, dignity and happiness of a free, independent and virtuous people." Membership: 968. President, Howard M. Jones; Secretary, John W. M. Bunker; Treasurer, Horace S. Ford; Librarian, Ernest H. Huntress; Editor, Taylor Starck. Headquarters: 28 Newbury St., Boston 16, Mass. Eight monthly meetings held at headquarters.

American Academy of Dental Medicine, Inc., founded in 1945 to promote the study and dissemination of knowledge of the cause, prevention, and control of diseases of the teeth and related subjects; to promote a closer medico-dental relation to these studies; and to foster better understanding between the fields of dentistry and medicine. Membership: 350. President: J. Lewis Blass; Secretary, William M. Greenhut; Treasurer, Louis R. Burman; Editor, *Journal of Dental Medicine*, Allan N. Arvins. Headquarters: Office of Secretary, 124 East 84th St., New York 28, N.Y. The 3d Annual Meeting will be held in New York, June 4-5, 1949.

American Academy of Political and Social Science, The, founded in 1889 to advance the progress of political and social science especially through publications and the holding of meetings. Membership: Approximately 13,500. President, Ernest M. Patterson; Secretary, J. J. Lichtenberger; Treasurer, Charles J. Rhoads. Headquarters: 3817 Spruce St., Philadelphia 4, Pa. The 52nd Annual Meeting was held in Philadelphia, Pa., Apr. 2-3, 1948.

American Anthropological Association, founded in 1902 to advance the science of anthropology in all its branches and to further the professional interests of American anthropologists. Membership: 450 Fellows; 1,200 Members. President, H. L. Shiple; Secretary, D. B. Stout; Treasurer, E. C. Aginsky. Headquarters: Office of Secretary, Maxwell Hall, Syracuse University, Syracuse 10, N.Y. Through a special committee the Association selects the annual recipient of the Viking Fund Medal and Prize in Cultural Anthropology. Publications: *American Anthropologist* (quarterly) and *Memoirs*.

American Antiquarian Society, founded in 1812 for furthering the knowledge of American history by research, publication, and the maintenance of a research library. Membership: 300. President, Samuel Eliot Morison; Director, Clarence S. Brigham; Librarian, Clifford K. Shipton. Headquarters: Worcester 5, Mass. Meetings to be held in Boston on Apr. 20, 1949, and in Worcester on Oct. 19, 1949.

American Association for Adult Education, founded in 1926 to further the idea of education as a continuing process throughout life. Membership: 2,600. President, Hans Kohn; Secretary, Mildred V. D. Mathews; Treasurer, James Cress; Director, Morse A. Cartwright. Headquarters: 525 W. 120th St., New York 27, N.Y.

American Association for the Advancement of Science, founded in 1848 to further the work of scientists, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress. It is a non-profit scientific and educational organization. It holds meetings and conferences, produces and distributes publications, administers gifts and bequests, provides support for research through awards for the accomplishment of scientific work, and cooperates with other organizations in the advancement of science. Membership: 42,000. President, E. C. Stakman; Administrative Secretary, Howard A. Meyerhoff. Headquarters: 1515 Massachusetts Ave., NW, Washington 5, D.C. The Annual Meeting will be held Dec. 26-31, 1949, in New York.

American Association for the United Nations (formerly League of Nations Association), founded in 1923 to develop an informed public opinion in support of the United Nations. It is the U.S. member of the World Federation of United Nations Associations; its research affiliate is the Commission to Study the Organization of Peace. Membership: 25,000. President, William Emerson; Executive Secretary, M. Eichelberger; Treasurer, Frederick C. McKee. Headquarters: 45 East 65th St., New York 21, N.Y.

American Association of Economic Entomologists, founded in 1889, to promote the study of and to advance the science of entomology, and to publish *The Journal of Economic Entomology*. Membership: About 2,300. President, S. A. Rohwer, United States Department of Agriculture, Secretary-Treasurer, Ernest N. Cory. Headquarters: College Park, Md. Annual meeting to be held Dec. 13-16, New York, N.Y.

American Association of Junior Colleges, founded in 1920 to stimulate the professional development of its mem-

bers and to promote the growth of the junior college. Membership: 480 institutions, 100 individual and sustaining organizations. President, Leland Medsker; Executive Secretary, Jesse P. Bogue; Director of Research and Editor of *Junior College Journal*, L. V. Koo. Headquarters: 1201 Nineteenth St., Washington 6, D.C.

American Association of Museums, founded in 1906 to help museums solve their problems and increase their usefulness. Membership: 400 museums, 700 individuals. President, David E. Finley; Secretary and Treasurer, Luke Vincent Lockwood; Director, Laurence Vail Coleman; Associate Director, Lauder Greenway. Headquarters: Smithsonian Institution, Washington 25, D.C. The 43rd Annual Meeting was held at Boston, Mass., May 27-29, 1948. Distinguished Service Award to Henry W. Kent.

American Association of Physical Anthropologists, founded in 1928 to promote research in physical anthropology and cooperation with cognate sciences. Membership: Approximately 200. President, W. M. Krogman; Editor of the *American Journal of Physical Anthropology*: W. W. Howells; Secretary-Treasurer, G. W. Lasker (Wayne University College of Medicine, Detroit 26, Mich.). Viking Fund Medal and Prize in Physical Anthropology to E. A. Hooton. Next Annual Meeting will be held at the Wistar Institute, Philadelphia, Pa., Apr. 11-13, 1949.

American Association of Social Workers, founded in 1921 to improve the quality of social services and advance public understanding of the profession of social work. It provides a channel through which social service practitioners formulate policies. Membership: 11,500. President, Donald S. Howard; Secretary, F. B. Miller; Treasurer, Malcolm S. Nichols. Headquarters: 180 E. 22nd St., New York 10, N.Y. Delegate Conference to be held June 10-12, 1949, at Cleveland, Ohio.

American Association of University Professors, founded in 1915 to maintain and advance the ideals and standards of the profession of teaching in colleges and universities. Membership: 30,857. President, Ralph H. Lutz; General Secretary, Ralph E. Humstead. Headquarters, 1101 Connecticut Ave., NW, Washington 6, D.C. Annual meeting to be held at Washington, D.C., Feb. 26-27, 1949.

American Association of University Women, founded in 1881 to unite the alumnae of different institutions for practical educational work. It comprises 1,065 branches in 48 state divisions organized in 9 regions. It is a member of the International Federation of University Women. Membership: 101,056. President, Althea Kratz Hottel; Treasurer, Mrs. Dorothy B. A. Rood; General Director, Kathryn McHale. Headquarters: 1634 Eye St., NW, Washington 6, D.C.

American Astronomical Society, founded in 1897 for the advancement of astronomy and closely related branches of science. Membership: 675. President, Otto Struve; Secretary, C. M. Huffer. Headquarters: Dearborn Observatory, Evanston, Ill. Meeting to be held in Ottawa, Ont., June, 1949.

American Automobile Association, founded in 1902, is a national civic body operating without personal profit and providing representation for motorists of the U.S. as well as automobile club services to members. Membership: Over 2,500,000. President, R. J. Schmunk; Executive Vice-President, Russell E. Singer; Secretary, Ralph Thomas; Treasurer, Corcoran Thom. Headquarters: Penna. Ave. at 17th St., NW, Washington 6, D.C.

American Bar Association, founded in 1878 "to advance the science of jurisprudence, promote the administration of justice and uniformity of legislation and of judicial decision throughout the nation, uphold the honor of the profession of the law, encourage cordial intercourse among members of the American bar, and to correlate the activities of the bar organizations of the respective states on a representative basis in the interest of the legal profession and of the public throughout the United States." Membership: Approximately 42,000. President, Frank E. Holman; Secretary, Joseph D. Stecher; Treasurer, Walter M. Bastian; Chairman of the House of Delegates, James R. Morford. Headquarters: 1140 North Dearborn St., Chicago 10, Ill. Annual meeting to be held Sept. 5, 1949. Medal to Arthur T. Vanderbilt, New Jersey.

American Bible Society, founded in 1816 to encourage the wider use of the Holy Scriptures without note or comment and without purpose of profit. Membership: Approximately 150,000. President, Daniel Burke; Recording Secretary, Francis C. Stiffer; Treasurer, Gilbert Darlington. Headquarters: 450 Park Ave., New York 22, N.Y. The 133d Annual Meeting will be held May 12, 1949.

American Booksellers Association, Inc., founded in 1900, protects and promotes the interests of retail booksellers in the United States. Membership: Approximately 1,450. President, Robert B. Campbell; Secretary, Benedict Freud; Treasurer, Frederick Wood; Executive Secretary, Gilbert E. Goodkind. Headquarters: 31 Madison Ave., New York 10, N.Y. National Convention of Booksellers and Publishers and a Book Trade Show to be held at the Shoreham, Washington, D.C., May 15-18, 1949. *ABA Book List*, Spring, 1949; *ABA Book Buyer's Handbook*, 3rd Ed., Fall, 1949.

American Cancer Society, Inc., founded in 1913 to control and cure cancer through a program of education, service and research. Divisions in 48 states. President, C. C. Nessel-

rode, M.D.; Executive Vice President, Douglass Poteat; Secretary, Charles D. Hilles, Jr.; Treasurer, J. Ernest Allen; Medical and Scientific Director, Charles S. Cameron, M.D.; National Commander Field Army, Mrs. H. V. Milligan; Comptroller, E. Tyson Mallack. Headquarters: 47 Beaver St., New York 4, N.Y. Membership obtainable only in State and geographic divisions.

American Chemical Society, founded in 1876 to encourage in the broadest and most liberal manner the advancement of chemistry in all its branches. Membership: 58,778. President, Charles A. Thomas, Jr.; Secretary, Alden H. Emery; Treasurer, Robert W. McCallum. Headquarters: 1155 16th St., NW, Washington 6, D.C. Publications: *Industrial and Engineering Chemistry*, *Analytical Chemistry*. ACS Award in Pure Chemistry to Saul Winstein; Borden Award to B. J. Hentz; Lilly & Co., Award to D. W. Woolley; Fisher Award to N. H. Furman; Gayvan Medal to Gerty T. Cori; Paul-Lewis Laboratories Award to A. L. Lehninger; Priestley Medal to E. R. Weidlein. In 1948 two national meetings were held.

American College of Physicians, founded in 1915 "... to establish an organization composed of qualified physicians of high standing who shall meet from time to time for the purpose of considering and discussing medical and scientific topics, and who through their organization shall attempt to accomplish the further purposes of: (a) maintaining and advancing the highest possible standards in medical education, medical practice and clinical research; (b) perpetuating the history and best traditions of medicine and medical ethics." Membership: 6,200. President, Walter W. Palmer, M.D.; Secretary General, George Morris Piersol, M.D.; Executive Secretary, Edward R. Loveland. Headquarters: 4200 Pine St., Philadelphia 4, Pa. National annual session to be held in New York, N.Y., Mar. 28-Apr. 1, 1949. Phillips Memorial Medal to Ernest W. Goodpasture, M.D.; Bruce Memorial Medal to James Stevens Simmons, M.D.; Stengel Memorial Award to Charles F. Martin, M.D.

American College of Surgeons, founded in 1913 to establish and maintain an association of surgeons to benefit humanity by advancing the science of surgery and the ethical and competent practice of its art. Membership: 16,000. President, Dr. Dallas B. Phenister. Headquarters: 40 East Erie St., Chicago 11, Ill. The 1949 Annual Clinical Congress will be held in Chicago, Ill., October 17-21.

American Council of Learned Societies, founded in 1919 for the advancement of the humanistic studies, and the maintenance and strengthening of relations among the national societies devoted to such studies. Membership: 23 societies and associations. Executive Director, Charles E. Odgaard; Chairman, William C. DeVane; Secretary, Lewis Hanke; Treasurer, S. Whitmore Rogers. Headquarters, 1219 Sixteenth St., NW, Washington 6, D.C. Next annual meeting, Jan. 27-28, 1949, Clandage Hotel, Atlantic City, N.J.

American Council on Education, founded 1918, to advance American education in any or all of its phases through voluntary cooperative action by educational associations, organizations, and institutions. Membership: 123 educational organizations, 890 institutional members (colleges and universities, city school systems, private school systems, state departments of education, etc.). President and Executive Officer, George F. Zook; Chairman, Harold C. Hunt. Headquarters: 744 Jackson Place, NW, Washington 6, D.C. Annual Meeting May 6-7, 1949, at Hotel Mayflower, Washington, D.C.

American Dental Association, founded in 1859, is a national non-profit association to encourage the improvement of the health of the public and to promote the art and science of dentistry. Membership: 71,826. President, Dr. Clyde E. Minges; Secretary, Dr. Harold Hillebrand; Treasurer, Dr. H. B. Washburn. Headquarters: 222 East Superior St., Chicago 11, Ill. National and regional meeting to be held Oct. 17-21, 1949, in San Francisco, Calif.

American Dietetic Association, Inc., founded in 1917 to improve the nutritional status of mankind, bring about closer cooperation among dietitians and nutritionists and workers in allied fields, and raise the standard of dietary work. Membership: Approximately 8,000. President, Helen E. Walsh; Secretary, Margaret A. Ohlson; Treasurer, Fern Gleiser. Headquarters: 620 North Michigan Ave., Chicago 11, Ill. Meeting to be held in Denver, Colo., Oct. 10-14, 1949. Copher Memorial Award to Grace Bulman.

American Documentation Institute, founded in 1937, is a non-profit organization for the promotion and development of documentation in scholarly and scientific fields. Membership: 62, nominated by scholarly and scientific agencies. The Institute is the U.S. organization in the International Federation of Documentation. President, Vernon Tate; Secretary, Watson Davis. Headquarters: 1719 N St., Washington 6, D.C.

American Economic Association, founded in 1885 for the encouragement of economic research, the issue of publications on economic subjects, and the encouragement of perfect freedom of economic discussion. Membership: 5,766; 2,402 subscribers (university libraries, etc.). President, Joseph A. Schumpeter, Harvard University; Secretary-Treasurer, James Washington Bell, Northwestern University, Evanston, Ill. Annual meeting at Hotel Cleveland, Cleveland, O., Dec. 27-30, 1948.

American Ethnological Society, Inc., The, founded in 1842 to stimulate an interest in and knowledge of anthropology through its publications and open meetings. Membership: 240. President, Esther S. Goldfrank; Secretary-Treasurer, Dorothy L. Kour. Headquarters: Hunter College, New York 21, N.Y.

American Eugenics Society, incorporated in 1926 as an educational society to promote a wider and better understanding of eugenics based on human heredity and correlative environment and aiming at human betterment, individual, family, and racial. Membership: 100. *Publisher: Eugenics News*. President, Frederick Osborn. Vice President, Joseph K. Pilsoud; Secretary-Treasurer, Chauncey Bolknep. Headquarters: 1790 Broadway, New York 19, N.Y.

American Farm Bureau Federation, founded 1919 to protect, protect, and represent the business, economic, social, and educational interests of farmers. Membership: Approximately 1,300,000 farm families. President, Allan B. Kline; Director of Information, J. J. Lacey. Headquarters: 109 N. Wabash Ave., Chicago 2, Ill.

American Federation of Arts, The, founded in 1909 "to unite in closer fellowship all who are striving for the development of art in America." Membership: 416 institutional and chapter members. President, L. M. C. Smith; Treasurer, Roy R. Neuberger; Secretary and Director, Thomas C. Parker. Headquarters: 1262 New Hampshire Ave., NW, Washington 6, D.C.

American Federation of Musicians, founded in 1896 to protect and advance the interests of musicians and enforce the consistency of union principles through unification of local unions, and to promote the art of music. Membership: 320,000. President, James C. Petrillo; Secretary, Leo Cluesmann; Treasurer, Thomas F. Gamble. Headquarters: Secretary's office, 39 Division St., Newark 2, N.J. A convention will be held at San Francisco, Calif., June 6, 1949.

American Folklore Society, founded in 1888 to collect, study and publish the folklore of the peoples of the world. Membership: 1,015. President, Eumme W. Vogelin; Secretary-Treasurer, MacEdward Leach; Editor, Wayland D. Hand. Headquarters: Bennett Hall, University of Pennsylvania, Philadelphia 4, Pa.

American Forestry Association, The, founded in 1875, is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife, and outdoor recreation. Membership: 21,000. President, A. C. Spurr; Executive Director, S. L. Frost; Secretary, Fred E. Hornaday. Headquarters: 919 17th St., NW, Washington 6, D.C.

American Foundation for the Blind, Inc., founded in 1923 to promote the interests of the blind in cooperation with all local organizations. President, William Ziegler, Jr.; Secretary, Gabriel Farrell; Executive Director, Robert B. Irwin. Headquarters: 15 West 16th St., New York 11, N.Y.

American Friends Service Committee, founded in 1917 to give expression to the Quaker faith through social action, especially through physical relief to war sufferers and reconciliation services to persons and groups grown antagonistic toward each other along national, racial, religious, or political lines. Chairman, Henry J. Cadbury; Executive Secretary, Clarence E. Pickett; Treasurer, William A. Longshore. Headquarters: 20 South 12th St., Philadelphia 7, Pa.

American Genetic Association, founded in 1903 to promote a knowledge of the laws of heredity and their application to the improvement of plants, animals, and human racial stocks. Membership: 3,000. President, David Fairchild; Secretary, C. E. Leach; Treasurer, Samuel L. Russell; Managing Editor, Robert C. Cook. Headquarters: 1507 M St., NW, Washington 5, D.C.

American Geographical Society, founded in 1852, is devoted to the advancement of geography in its scientific, educational, and cultural aspects, its practical applications, and its bearing on fundamental problems of human existence and human relationships in the different regions of the earth. Membership: 4,648. President, Richard U. Light; Treasurer, R. McAllister Lloyd; Director, John K. Wright. Headquarters: Broadway at 156th St., New York 32, N.Y. Eight monthly lecture meetings will be held in 1949 for Fellows of the Society.

American Historical Association, founded in 1884 as a body corporate and politic for the promotion of historical studies, the collection and preservation of historical manuscripts, and for kindred purposes in the interests of American history and of history in America. Membership: 5,000. President, Kenneth S. Latourette; Treasurer, Solon J. Buck; Executive Secretary, Guy Stanton Ford. Headquarters: Room 274, Library of Congress Annex, Washington 25, D.C.

American Home Economics Association, founded in 1909 for the development and promotion of standards of home and family life that will best further individual and social welfare. The AHEA works through six divisions, 16 departments, and numerous committees. Membership: 18,000 annual members, 20,000 students, 386 affiliated college clubs, and 947 homemakers in 36 groups. President, Dr. Marie Dye; Recording Secretary, Helen P. Hostetter; Treasurer, Dorothy E. Shank. Headquarters: 700 Victor Building, Washington 1, D.C. A meeting will be held at San Francisco, Calif., June 28-July 1, 1949.

American Horticultural Society, Inc., The, founded in 1922

to promote horticulture in all its branches. Membership: 2,458. President, H. E. Allanson; Secretary, Conrad Link; Treasurer, C. O. Erlanson; Editor, B. Y. Morrison. Headquarters: 821 Washington Loan and Trust Building, Washington 4, D.C. The annual business meeting, for members only, held in Washington, D.C., in April of each year.

American Hospital Association, founded in 1898 to provide "Better Hospital Care for All People" through standardization of hospital service; education; and representation of hospitals to government, groups, and the public. Membership: 4,065 institutional; 3,305 individual. President, Joseph C. Norby; 1st Vice President, Edwin L. Crosby; 2nd Vice President, Mary C. Schabinger. Headquarters: 18 East Division St., Chicago 10, Ill. The 51st Annual Convention will be held at Cleveland, Ohio, Sept. 26-28, 1949.

American Institute of Architects, The, founded in 1857, to organize and unite in fellowship the architects of the United States; to advance the standards of their profession; to coordinate the building industry and the profession of architecture; and to increase the service of the profession. Membership: 7,750. President, Douglas William Orr; Secretary, Clair W. Ditchey; Treasurer, Charles F. Cellarius. Headquarters: The Octagon, 1741 New York Ave., NW, Washington 6, D.C. A convention and annual Board of Directors meeting will be held in Houston, Tex., in March, 1949.

American Institute of Banking, Section of the American Bankers Association, founded in 1900. Devoted to the education of bank personnel in the theory and practice of banking and in those principles of law, economics, and accounting that pertain to the banking business; and to the establishment and maintenance of a recognized standard of banking education. Membership: 50,000. President, Peter N. Hansen; Vice President, Howell F. Taylor; Educational Director, Leroy Lewis; Secretary, Floyd W. Larson. Headquarters: 12 East 36th St., New York 16, N.Y. The annual convention will be held in Portland, Oreg., May 30-June 3, 1949.

American Institute of Chemists, Inc., The, founded in 1923 to advance the professional and economic status of chemists. Membership: 2,500. President, Lawrence H. Flett; Secretary, Dr. Lloyd Van Doren; Treasurer, Frederick A. Hossel. Headquarters: 60 East 42nd St., New York 17, N.Y. Gold Medal to Warren K. Lewis.

American Institute of Electrical Engineers, founded in 1884 for the advancement of the theory and practice of electrical engineering and of the allied arts and sciences. Membership: 30,000. President, Everett S. Lee; Secretary, H. H. Hendon. Headquarters: 31 West 39th St., New York 18, N.Y. Life 1947 Edison Medal to Dr. Joseph Slefian; Laetitia Medal to A. N. MacCallister. A Winter Meeting will be held in New York, Jan. 31-Feb. 4, 1949; a Summer Meeting at Swampscott, Mass., June 20-24, 1949.

American Institute of Mining and Metallurgical Engineers, Inc., founded in 1871 to promote the arts and sciences connected with the economic and scientific search for, and the production and use of, minerals, including metals, coal, petroleum, and other nonmetallic minerals. Membership: 19,000. President and Director, Wallace E. Wrather; Secretary, A. B. Parsons. Headquarters: 29 West 39th St., New York 18, N.Y. The annual meeting will be held Feb. 14-17, 1949, at the Hotel Fairmont, San Francisco, Calif. Rand Medal to Harry C. Wiess (posthumously); Douglas Medal to William Wraith; Saunders Medal to Stanley A. Easton.

American Institute of Pacific Relations, Inc., founded in 1925, combines research, discussion, and publication in a program designed to provide people with the facts about economic, social, and political developments in the Far East. It publishes books and the fortnightly journal, *Far Eastern Survey*. Membership: 2,000. Chairman, Ray Lyman Wilbur; Treasurer, Donald B. Straus; Executive Secretary, Clayton Lane. Headquarters: 1 East 54th St., New York 22, N.Y. National Conference, preceded by regional conferences planned for winter and spring of 1949.

American Institute of Physics, founded in 1931 for the advancement and diffusion of knowledge of the science of physics and its applications to human welfare; the publication of scientific journals devoted wholly or mainly to physics; and the fostering of relations between the science of physics, other sciences and the arts and industries. Membership: approximately 10,000. Chairman, George R. Harrison; Secretary, Wallace Waterfall; Treasurer, George B. Pegram; Director, Henry A. Barton. Headquarters: 57 East 55th St., New York 22, N.Y.

American Jewish Congress, founded in 1918 to safeguard the civil, political, economic and religious rights of Jews everywhere; to stimulate a positive appreciation of Jewish culture and the promotion of a creative Jewish communal life within the framework of American democracy; to support Israel. Publications: *Congress Weekly*; *Jewish Affairs* pamphlet series. President, Dr. Stephen S. Wise; Executive Director, Dr. David Piatigorsky. Headquarters: 1634 Broadway, New York 23, N.Y.

American Jewish Joint Distribution Committee, Inc., founded in 1914, is the major American agency for the relief and rehabilitation of Jews overseas. Membership: Approximately 9,000 members of the National Council. Chairman, Edward M. M. Warburg; Executive Vice-Chairman

and Secretary, Moses A. Leavitt; Treasurers, I. Edwin Goldwasser and Ben Abrams. Headquarters: 270 Madison Ave., New York 16, N.Y. Annual Meeting Oct. 30-31, 1949.

American Law Institute, The, founded in 1923 to clarify and simplify the law and better adapt it to social needs, to improve the administration of justice, and to encourage and carry on scholarly and scientific legal work. Membership: 1,033 elected members and 249 ex-officio members. President, Harrison Tweed; Treasurer, William Dean Embree; Director, Herbert F. Goodrich. Headquarters: C/o Director, 133 South 36th St., Philadelphia 4, Pa. A national meeting will be held at the Mayflower Hotel, Washington, D.C., May 18-21, 1949.

American Library Association, founded in 1876 to develop a complete and adequate library service for the United States and Canada, to increase the economic security and aid the professional advancement of librarians, and to plan the future of library service. Membership: 17,800. President, E. W. McDiarmid; Treasurer, Harold F. Brigham; Executive Secretary, John Mackenzie Cory. Headquarters: 50 East Huron, Chicago 11, Ill. Awards: citations to Emma V. Baldwin and Thomas J. Porro; Newbery Medal to William Pene du Bois; Caldecott Medal to Roger Duvoisin; Letter Award to Mrs. Allison P. Allesios; Lippincott Award to Carl H. Milam.

American Management Association, founded in 1923, is an organization of more than 12,200 companies and individual executives in all industries interested in the practical solution of current management problems and the development of the science of management in personnel and industrial relations, marketing, insurance, finance, office administration, packaging, and production by a broad exchange of information and experience through conferences, publications, and research. Membership: 12,200. President, Lawrence A. Appley; Treasurer, James L. Mudden; Secretary, James O. Rice. Headquarters: 330 West 42nd St., New York 18, N.Y. Eleven conferences, representing the different interests of the association, have been scheduled for 1949.

American Mathematical Society, founded in 1888, to encourage and maintain an active interest in mathematical science. Membership: 3,800. President, Einar Hille; President in 1949: J. L. Walsh; Secretary, J. R. Bruce. Headquarters: 531 West 118th St., New York 27, N.Y.

American Medical Association, founded in 1847 to promote the science and art of medicine and improve public health. Membership: 138,902. President, R. L. Scorsenich; Secretary and General Manager, George F. Lull; Treasurer, J. J. Moore; Editor, Morris Fishbein; Business Manager, Thomas R. Gardiner. Headquarters: 535 North Dearborn St., Chicago 10, Ill. The annual session will be held in Atlantic City, N.J., June 6-10, 1949.

American Medical Women's Association, founded in 1924, to bring medical women into association with each other; to encourage social and cooperative relations within and without the profession; and to further constructive projects. Membership: 1,200 active; 800 associate. President, Elise S. L'Esperance, M.D.; Recording Secretary, Augusta Webster, M.D.; Corresponding Secretary, Isabel M. Scharnagel, M.D.; Treasurer, Mary R. Noble. Headquarters: 50 West 50th St., New York 20, N.Y. The Annual Meeting will be held in Atlantic City, N.J., in June, 1949.

American Meteorological Society, founded in 1919 for the development and dissemination of knowledge of meteorology in all its phases and applications and the advancement of its professional ideals. Membership: 3,500. President, Captain H. T. Orville, USN; Executive Secretary, Kenneth C. Spengler. Headquarters: 5 Joy St., Boston 8, Mass.

American Mission to Lepers, founded in 1906, gives money to medical missionaries and others all over the world to care for those with leprosy. The Mission devotes part of its resources to enlisting the aid of governments, and envisages the time when the care of those with leprosy will be a public obligation in each country. Membership: All contributors. President, Emory Ross, D.D.; Executive Secretary, Raymond P. Currier. Headquarters: 156 Fifth Ave., New York 10, N.Y. The annual meeting will be held in Boston, Mass., Oct. 20-21, 1949.

American Municipal Association, The, organized in 1924 to serve as a clearing house on questions of municipal policy, to furnish information and services to the State leagues of municipalities, and to represent municipal interests on a national scale. Membership: 41 State leagues with some 9,500 members; certain large cities. Publications: *American Municipal News*, *Washington News Letter*, *State League Notes*. President, Fletcher Bowron; Executive Director, Carl H. Chatters. Headquarters: 1313 East 60th St., Chicago 37, Ill., and 524 Transportation Building, Washington, D.C.

American Museum of Natural History, The, founded in 1869 for the purpose of encouraging and developing the study of natural science and kindred subjects. Membership: 83,982. President, F. Trupee Davison; Director, Albert E. Parr. Headquarters: 79th St. and Central Park West, New York 24, N.Y.

American Nature Association, founded in 1922 to stimulate interest in Nature and the out-of-doors, foster nature study in public schools, and work for the conservation

of natural resources and the protection of wildlife. Membership: 65,000. President, Richard W. Westwood; Treasurer, James A. O'Hearn. Headquarters: 1214 16th St., NW, Washington 6, D.C. The annual meeting of directors will be held in Washington, D.C., in May, 1949.

American Numismatic Society, The, founded in 1858 for: (1) the collection, safe storage, and exhibition of coins; (2) the assembly of a numismatic library; (3) the diffusion of numismatic knowledge and the development of interest in the subject through scientific publications and through occasional lectures and exhibitions. Membership: 781. President, Arthur S. Dewing; Secretary, Sawyer McA. Mower. Headquarters: Broadway at 156th St., New York 32, N.Y. The annual meeting is held in January of each year.

American Nurses' Association, The, incorporated in 1896 to promote the professional advancement of nurses, to elevate the standards of nursing education, establish and maintain a code of ethics among nurses, disseminate information on nursing through official publications and other sources, to bring nurses, associations, and federations into communication with each other. Membership: 51 constituent associations with 161,500 members. President, Pearl McIvor, R.N.; Executive Secretary, Ella Best, R.N. Headquarters: 1230 Broadway, New York 19, N.Y. Publications: *American Journal of Nursing*, *Facts About Nursing*, etc. The next annual meeting will be held in 1950.

American Oriental Society, founded in 1842 to promote study and research in Oriental languages, literatures, and cultures and to publish books and papers dealing with these subjects. Membership: 910. President, Albrecht Goetze; Secretary-Treasurer, Ferris J. Stephens; Editor, Murray B. Emeneau. Headquarters: 329 Sterling Memorial Library, New Haven, Conn. The National Annual Meeting will be held at New Haven, Conn., Apr. 5-7, 1949.

American ORI Federation, founded in 1922, is the American branch of the World ORI Union, an organization devoted to the vocational training and economic reconstruction of Jews throughout the world, with branches in 33 countries. American headquarters: 212 Fifth Ave., New York 10, N.Y.

American Peace Society, The, founded in 1828 "to promote the principles of international law through justice; to advance . . . the general use of conciliation, arbitration, judicial methods, and other peaceful means of adjusting and avoiding differences among nations, to the end that right shall rule might in a law-governed world." President, Amos J. Pease; Treasurer, F. E. Hildbrand; Executive Secretary, Franklin Dunham. Editor in chief of *World Affairs*, A. Curtis Widgas. The 120th Annual Meeting was held in Washington, D.C., May 5, 1948.

American Philatelic Society, founded in 1886 to assist members to obtain knowledge about philately; to cultivate friendship among philatelists; and to assist members to acquire and dispose of stamps. Membership: 10,735. President, Donald P. L'Esperance; Executive Secretary, H. Clay Minton; International Secretary, Adolph Steeg. Headquarters: Central Office, Box 800, State College, Pa. The national convention will be held Aug. 15-19, 1949, in Boston, Mass.

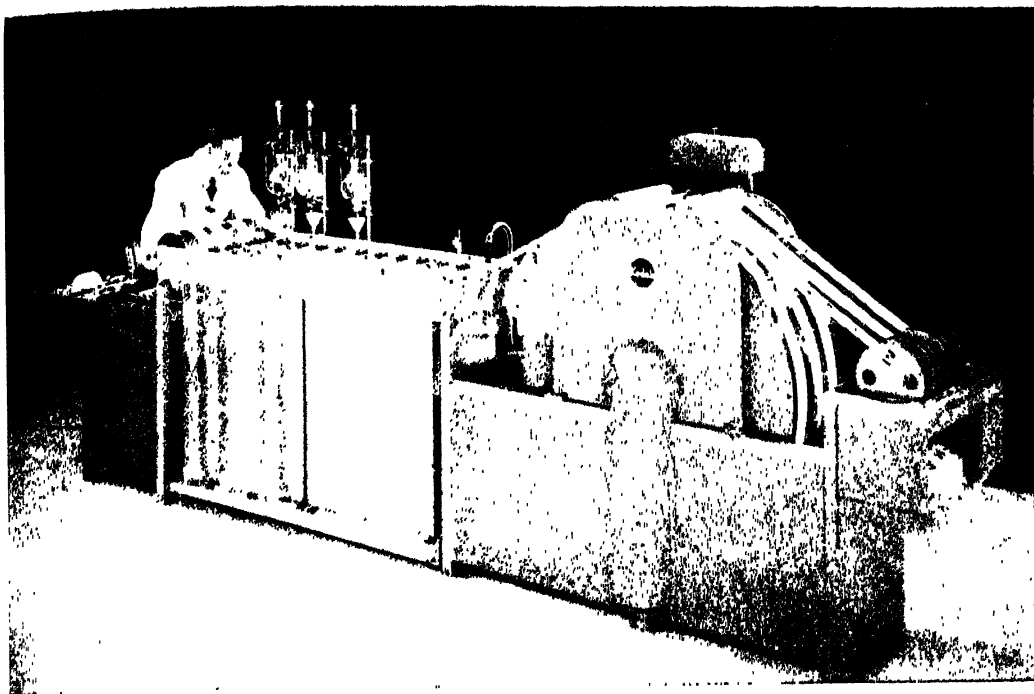
American Philosophical Association, founded in 1901 to promote the study and teaching of philosophy in all its branches, and to cooperate closely with philosophers and philosophical societies throughout the world. Membership: 1,110. Chairman, Board of Directors, A. C. Benjamin; Secretary-Treasurer, George R. Gower. Headquarters: Office of the Secretary, Antioch College, Yellow Springs, Ohio.

American Physical Society, founded in 1899 for the advancement and diffusion of the knowledge of physics. Membership: 7,600. President, J. R. Oppenheimer; Secretary, K. K. Darrow; Treasurer, G. B. Pegram; Editor, J. T. Tate. Headquarters: Columbia University, New York 27, N.Y.

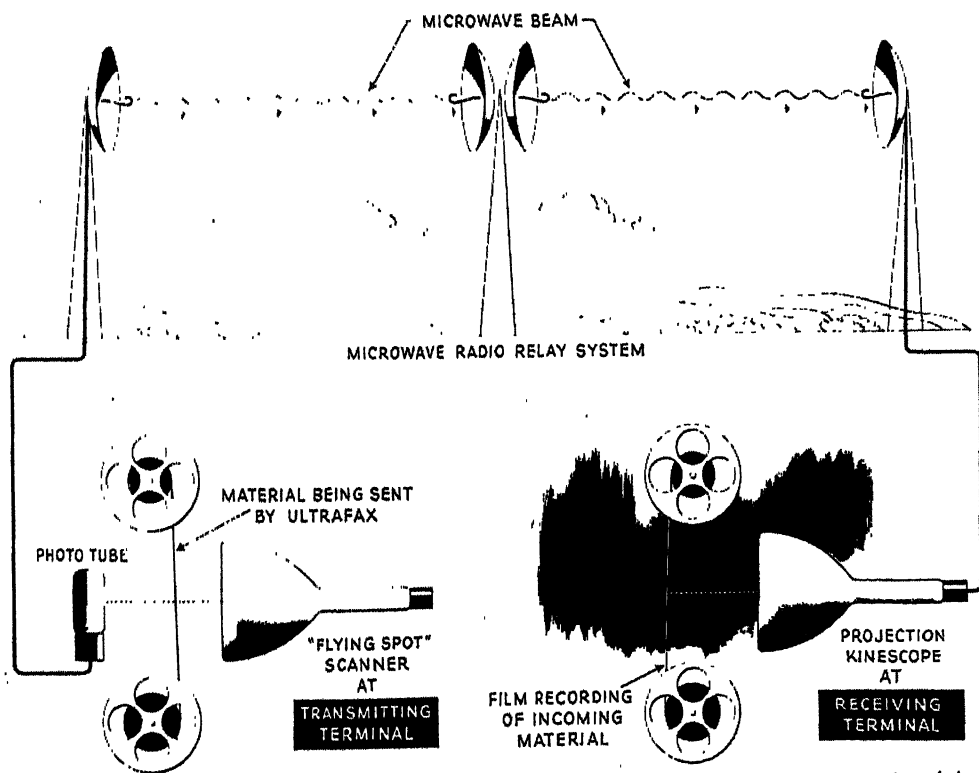
American Planning and Civic Association, formed in 1935 by a merger of the American Civic Association (1904) and the National Conference on City Planning (1909). It is dedicated to the education of the American people in an understanding and appreciation of local, state, regional, and national planning for the best use of urban and rural land; the safeguarding of parks and natural scenery; and the improvement of living conditions. Membership: 2,000. President, U. S. Grant, Sr.; Treasurer, C. F. Jacobsen; Executive Secretary, Harlan James; Counsel, Flavel Shurtleff; Librarian, Dora A. Padgett. Headquarters: 901 Union Trust Bldg., Washington 5, D.C.

American Political Science Association, The, founded in 1906, is a non-partisan organization which works to encourage the study of Political Science, including political theory, government and politics, public law, public administration, and international relations. Membership: 1,500. President, Henry B. Spencer; Managing Editor, *American Political Science Review*, Frederic A. Ogg; Secretary-Treasurer, Harvey Walker. Headquarters: Office of the Secretary-Treasurer, 100 University Hall, Ohio State University, Columbus 10, Ohio.

American Prison Association, The, founded in 1870 (incorporated 1872) to study the causes and treatment of crime; to improve laws; to improve penal, correctional, and reformatory institutions; and to develop and improve methods relating to probation, parole, and the after-care

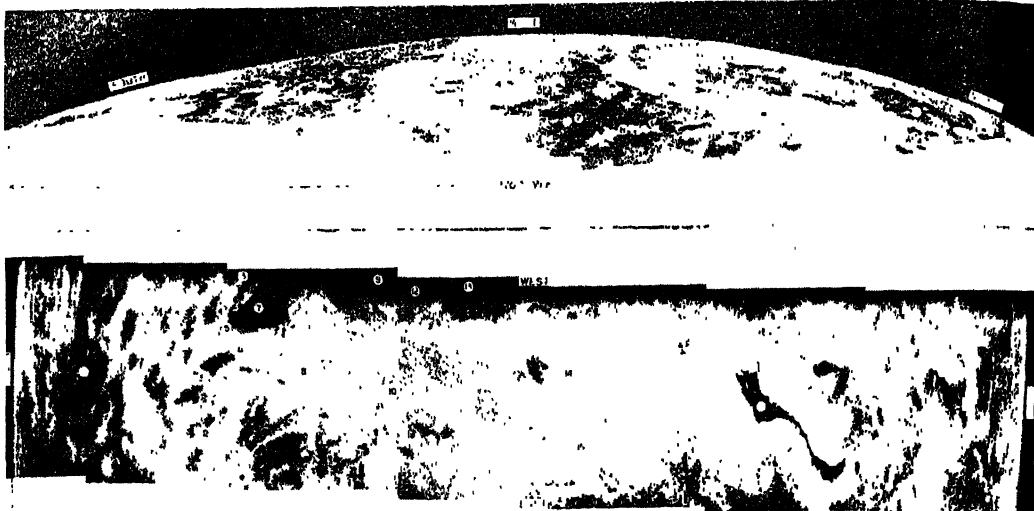


PHOTOGRAPHIC PRINT Processing Machine. The apparatus (shown above) for the photofinishing of prints uses long rolls (1,000 feet) of paper, has automatic solution feed and replenishment, and has a stated capacity of 2,400 prints per hour



Radio Corporation of America

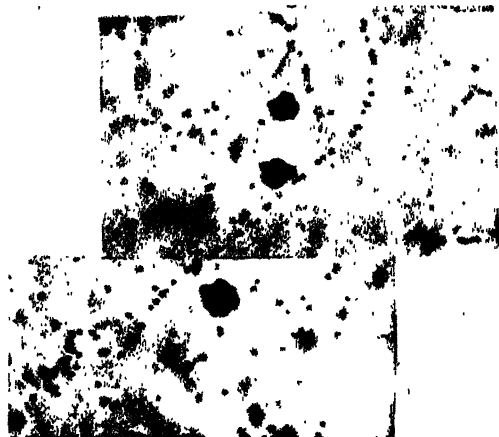
DIAGRAM OF ULTRAFAX SYSTEM for the rapid transmission of messages. Widely diversified types of information can be transmitted by this system at rates up to a million words a minute. The system is thus endowed with potentialities for greater speed and volume than any other existing method for the speedy transmission of information and intelligence.



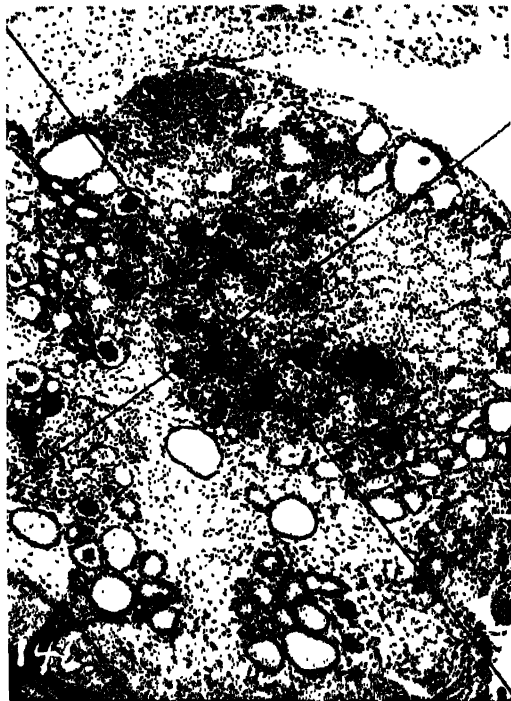
Johns Hopkins

Official U.S. Navy-Johns Hopkins (APL) Photograph

ROCKET-BORNE SEQUENCE CAMERAS. (Upper) Composite made from V-2 Rocket at 60-miles height shows an arc of 2,700 miles of the earth. (Lower) Composite made from Aerobee Rocket at 70 miles shows terrain about 1,400 miles long.

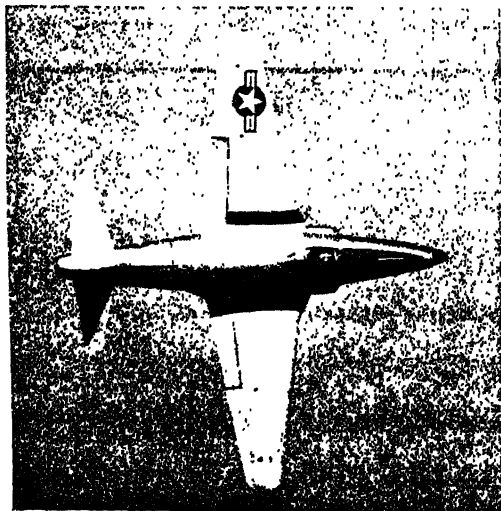


ELECTRON TRACK shown in a photographic emulsion (Kodak NTB Plate).



Dr. G. A. Boyd, School of Medicine and Dentistry, University of Rochester, N.Y.

AUTORADIOGRAPH of a rat thyroid tissue showing presence of radioactive iodine (the dark spots in center).



P-80 JET AIRPLANE photographed at simulated supersonic speed of 1,000 miles per hour. The dimensional accuracy was within two percent in the direction of the flight.

*Photographic Laboratory,
Engineering Division, ATC,
U.S. Air Force*



SHAKESPEARE'S *The Taming of the Shrew* comes in for some modernizing in the Cole Porter-Bella Spewack collaboration *Kiss Me, Kate*. Shown above (left to right) are Patricia Morison, Alfred Drake, Lisa Kirk, and Harold Lang.



► TALLULAH BANKHEAD revives Broadway with her lusty and rollicking performance in a return of Noel Coward's *Private Lives* and makes a personal hit in that light comedy.



◄ CLARENCE DAY'S LIFE carries on, this time with *Mother*. The new play is by Howard Lindsay and Russel Crouse, and stars Mr. Lindsay and Dorothy Stickney in the usual roles.



LIGHT UP THE SKY is the title of a new Moss Hart comedy, dealing with actors and allied folk at the time of a play's tryout. Above (from left) are Bartlett Robinson, Audrey Christie, Glenn Anders, Phyllis Povah, and Sam Levene.



ANNE OF THE THOUSAND DAYS was Maxwell Anderson's happily received drama of Henry the Eighth and Anne Boleyn. Joyce Redman and Rex Harrison appeared in the play's leading roles.



TENNESSEE WILLIAMS presents an early play, *Summer and Smoke*, with less success than either *The Glass Menagerie* or his *A Streetcar Named Desire*.



JEAN-PAUL SARTRE, French existentialist, made an impressive mark on the theater season in 1948, at one time able to count four of his plays on Broadway stages. The above picture is from the Jean Dalrymple presentation of Sartre's *Red Gloves*, featuring Charles Boyer as a Communist leader, and with Francis Compton and Royal Beal. Also seen on the stage during the year were Jean-Paul Sartre's *The Respectful Prostitute*, *The Victors*, and *No Exit*.

of released prisoners. Membership: Approximately 1,000. President, John C. Burke; General Secretary, E. R. Cass; Treasurer, John L. Schoenfeld. Headquarters: 135 East 15th St., New York 3, N.Y. The 79th annual Congress of Correction will be held in Milwaukee, Wisc., Sept. 25-30, 1949.

American Psychiatric Association, founded in 1844 to foster the study of all subjects pertaining to mental disease and defects. Membership: 4,785. President, William C. Menninger; Secretary, Leo H. Bartemeier; Treasurer, Howard W. Potter. Headquarters: Room 412, 1270 Avenue of the Americas, New York 20, N.Y. A meeting will be held at the Hotel Windsor, Montreal, Canada, May 23-27, 1949.

American Psychological Association, founded in 1892 to advance psychology as a science, as a profession, and as a means of promoting human welfare. Membership: 5,700. President, Ernest R. Hilgard; Recording Secretary, Helen Peak; Treasurer, Carroll L. Shutt; Executive Secretary, Dael Wolfe. Headquarters: 1335 Massachusetts Ave., NW, Washington 5, D.C. The 1949 annual meeting will be held Sept. 6-10, in Denver, Colo.

American Public Health Association, founded in 1872 to protect and promote public health. Membership: 11,500 including 31 regional affiliated agencies. President, Charles F. Willinsky, M.D.; Treasurer, Louis I. Dublin; Chairman of the Executive Board, Hugh R. Leavell, M.D.; Executive Secretary, Reginald M. Atwater. Headquarters: 1790 Broadway, New York 19, N.Y. The 77th Annual Meeting will be held in New York the week of October 23, 1949. Lasker Awards (1948) to Drs. Rene J. Dubos, R. E. Dyer, Martha M. Elliot, Vincent du Vigneaud, Selman A. Waksman and the Department of Medicine and Surgery, U.S. Veterans Administration; Sedgwick Medal to Abel Wolman. *Publisher: Journal of Public Health.*

American Public Welfare Association, founded in 1930 to develop and maintain sound principles and effective administration of public welfare services. It acts as a clearing house for the exchange of thought and experience in the public welfare field, coordinates welfare activities, and works to improve the professional standing of personnel in the public field. In all its activities the association cooperates with federal agencies and national organizations. Membership: 4,200. Joseph E. Baldwin, President; Leland Hiatt, Vice President; Howard L. Russell, Secretary; Joseph L. Moss, Treasurer. Headquarters: 1313 East 60th St., Chicago 37, Ill.

American Radio Relay League, Inc., founded in 1915, is a membership (non-profit) association of government licensed amateur radio operators. Membership: 65,000. President, George W. Bailey. Headquarters: 38 Lasalle Rd., West Hartford 7, Conn. A meeting of the Board of Directors will be held at West Hartford, Conn., in May, 1949.

American Russian Institute (ARI), The, is a non-political, non-profit organization founded in 1926 and incorporated in 1938. Its purposes are to promote cultural intercourse between the peoples of the U.S.A. and the U.S.S.R. and to foster understanding by making available accurate information concerning cultural, scientific, and educational activities in both countries. Library: 12,000 books and pamphlets, 512 periodical titles, 350,000 English language clippings, and 8,000 biographical cards on Soviet personalities. The ARI also engages in paid research; provides translations and photostat services; conducts a Russian language school; and publishes the *American Review on the Soviet Union*, *Russian Technical Research News* and miscellaneous pamphlets. Chairman of the Board, Ernest C. Ropes; Executive Director, Henry H. Collins, Jr. Headquarters: 58 Park Ave., New York 16, N.Y.

American Seamen's Friend Society, The, founded in 1828, is a national organization which cooperates with all who aid seamen, particularly merchantmen. It maintains a library and an information service ashore for seamen and supplies books for vessels sailing from the port of New York. Recently opened a convalescent home for seamen in Tottenville, Staten Island, N.Y. Membership: 350. President, Winchester Noyes; Treasurer, Orrin R. Judd; Secretary and Executive Director, R. H. Lee-Martin. Headquarters: 175 Fifth Ave., New York 10, N.Y.

American Society for Metals, founded in 1918, is a technical and educational society (non-profit) to promote the arts and sciences connected with either the manufacture or the treatment of metals, or both. It has 76 chapters throughout the United States and Canada. Membership: 20,000. President, Harold K. Work; Secretary, William H. Eisenman. Headquarters: National Office, 7801 Euclid Ave., Cleveland 3, O. The National Metal Congress and Exposition will be held in Cleveland, Ohio, Oct. 17-21, 1949. A.S.M. Gold Medal to Francis C. Frary; A.S.M. Medal for Advancement of Research to Willard H. Dow; Howe Medal to J. W. Spretnak.

American Society for Psychological Research, Inc., The, founded in 1905 for the scientific investigation of all types of psychic phenomena. Membership: 750. President, George H. Hyslop, M.D.; Secretary-Assistant Treasurer, Mrs. Edward W. Allison; Treasurer, Gerald L. Kaufmann. Headquarters: 880 Fifth Ave., New York 21, N.Y.

American Society of Civil Engineers, founded in 1852 for "the advancement of the sciences of engineering and architecture in their several branches, the professional improve-

ment of its membership, the encouragement of intercourse between men of practical science, and the establishment of a central point of reference and union for its members." Membership: 24,000. President, 1948, R. E. Dougherty; President, 1949, Professor Franklin Thomas; Executive Secretary, Col. William N. Carey. Headquarters: 33 West 39th St., New York 18, N.Y. The 1949 annual meeting is scheduled for January 19-21, in N.Y., the spring meeting for April 20-23 in Oklahoma City, Okla., the summer convention for July 13-15 in Mexico City, Mex., and the fall meeting for October 30-November 4, in Washington, D.C. Norman Medal to Boris A. Bakhmeteff; Croes Medal to Thomas R. Camp; Rowland Prize to R. F. Blanks and H. S. Meissner; James Laurie Prize to Ross M. Riegel; Collingwood Prize to F. L. Ehasz; Hering Medal to A. L. Genter; Stevens Award to Maurice L. Albertson; Hilgard Prize to A. A. Kalinske.

American Society of Mechanical Engineers, The, founded in 1880 to promote the art and science of mechanical engineering; to encourage research; to foster engineering education; to advance the standards of engineering; and to broaden the usefulness of the engineering profession. Membership: 26,000 in 20 professional divisions. There are student branches in 122 engineering schools. President, James M. Todd; Secretary, George F. Davies. Headquarters: 29 West 39th St., New York 18, N.Y. Publications: *Mechanical Engineering*; *Journal of Applied Mechanics*; *Transactions*; *Applied Mechanics Review*; *ASME Mechanical Catalog and Directory*.

American Society of Zoologists, founded in 1902, is an association of workers in the field of zoology for the presentation and discussion of new or important zoological facts and problems, and for the adoption of measures to advance zoological science. Membership: 1,150. President, Carl G. Hartman; Secretary, L. V. Dorn. Headquarters: Office of the Secretary, Whitman Laboratory, 5700 Ingleside, Chicago 37, Ill.

American Sociological Society, founded in 1905 to stimulate and improve research, instruction and discussion, and to encourage cooperative relations among persons engaged in the scientific study of society. Membership: 2,400. President, Talcott Parsons; Secretary, Treasurer and Managing Editor of *Review*, Ernest R. Mowrer; Editor, Maurice R. Davis. Headquarters: Northwestern Univ., Evanston, Ill.

American Standards Association, founded in 1918, is a federation of national associations and government departments dealing with standardization. Through it, government, technical societies, industry, labor, and the consumer, work together to develop a mutually satisfactory set of national standards. Membership: 108 trade associations, technical societies, consumer groups, and government departments; over 2,100 company members. President, Thomas D. Jolly; Secretary, G. F. Hussey, Jr.; Technical Director & Assistant Secretary, Cyril Ainsworth; Chairman, Executive Committee, Howard Coonley. Headquarters: 70 East 45th St., New York 17, N.Y.

American Statistical Association, founded in 1839 to promote unity and effectiveness of effort among all concerned with statistical problems, and to increase the contribution of statistics to human welfare. Membership: Over 5,000. President, Simon Kuznets; Secretary, Treasurer, Merrill M. Flood. Headquarters: 1603 K St., NW Washington 6, D.C.

American Veterans Committee, Inc., founded in 1944 to assist veterans in their problems of reintegration into community life; to support legislation which will benefit veterans, first, as citizens, second, as veterans; to achieve a more democratic and prosperous America and a more stable world. Membership: 110,000. National Chairman, Chat Paterson; National Vice Chairman, Joseph A. Clorety, Jr.; National Secretary, Joseph A. Clorety, Jr.; National Treasurer, Ely Wagner. Headquarters: 1200 Eye Street Northwest, Washington 5, D.C. 3rd Annual Convention—November 25-28, 1948.

American Veterinary Medical Association, founded in 1863 to advance the science and art of veterinary medicine, including its relationship to public health. Membership: 9,600. President, Dr. L. M. Hurt; Executive Secretary, Dr. J. G. Hardenbergh. Headquarters: 600 S. Michigan Ave., Chicago 5, Ill. Annual meeting will be held at Detroit, Mich., July 11-14, 1949. Twelfth International Veterinary Congress Prize to Dr. A. E. Cameron; 1948 Borden Award and Medal to Dr. A. F. Schalk; 1948 Humane Act Award to Richard Swank.

American Vocational Association, Inc., founded in 1925, is a national professional organization of teachers, supervisors, administrators, and other persons interested in education for occupational efficiency. The AVA extends its services to individuals and organizations interested in this field of education. Membership: 27,534. President, Julian A. McPhee; Treasurer, Charles W. Sylvester; Executive Secretary, L. H. Dennis. Headquarters: 1010 Vermont Ave., Washington 5, D.C.

American Wildlife Foundation, founded in 1935 to promote the coordination of the wildlife conservation, restoration, and management work of organizations throughout North America. Membership: 25 trustees. President, F. C. Walcott; Treasurer, T. E. Doremus; Secretary, C. R. Guter-muth. Headquarters: 822 Investment Building, Washington 5, D.C. The foundation issues grants-in-aid to cooperating agencies and organizations.

American Woman's Association, The, founded in 1922 to advance the economic, cultural and social interests of business and professional women. President, Mrs. Natalie W. Linderholm; Secretary, Dorothy L. Wood; Treasurer, Maude K. Wetmore. Headquarters: The Barclay, 111 East 48th St., New York 17, N.Y.

American Youth Hostels, Inc., founded in 1934 to help build a more peaceful world through the wide and happy comradeship of youth. The society provides youth hostels (inexpensive overnight accommodations) in America, and sponsors trips in America and abroad. Membership: Over 15,000. President, John D. Rockefeller, 3rd; Executive Vice President, Ben W. Miller; Treasurer, Edwin A. Locke, Jr.; National Director, Monroe W. Smith. Headquarters: Northfield, Mass.

AMVETS (American Veterans of World War II), organized in 1945 under a charter by the U.S. Congress to preserve world peace, to strengthen the American way of life, and to help the veteran to help himself. Membership: 100,000. National Commander, Harold A. Scott; National Executive Director, Elliot Newcomb. Headquarters: 724 Ninth St., NW, Washington 1, D.C. The Annual National Convention will be held at Des Moines, Iowa, Aug. 31-Sept. 4, 1949.

Archaeological Institute of America, founded in 1879 to promote interest in archaeology. Membership: about 1,800. President, Sterling Dow; Secretary, Van L. Johnson; Treasurer, Seth T. Gano; Headquarters: Andover Hall, Harvard University, Cambridge 38, Mass.

Arctic Institute of North America, founded in 1944 to encourage scientific research in the Arctic and Subarctic regions of North America and, in general, to act as coordinating center for Arctic work in North America. Membership: 18 members of Board of Governors, 1,500 Associate members. Chairman, Dr. Henry B. Collins, Jr., Executive Director, A. L. Washburn; Director, Maritime Office, P. D. Baird; Director New York Office, W. A. V. Headquarter: 3485 University St., Montreal, Canada. New York Office: Broadway at 156th St., New York 32, N.Y. In 1948 the Institute supported 13 field projects; instituted a program of Associate membership; began publication of *Arctic*, a biannual journal, and a newsletter.

Army Relief Society, founded in 1900, provides assistance to dependent widows and orphans of officers and enlisted men of the Regular Army and of temporary personnel. President, Mrs. David Wagstaff; Recording Secretary, Mrs. Clarence F. Townsley; Treasurer, Walter G. Kimball. Monthly meetings are held at Headquarters, 350 Fifth Ave., New York 1, N.Y. The annual meeting will be held in April, 1949.

Association of the Junior Leagues of America, Inc., founded in 1921 to unite in one body all the Junior Leagues of America and to foster their interest in the social, economic, educational, cultural, and civic conditions of their respective communities. The association also works to improve the efficiency of the volunteer service of members. Membership: 50,000. President, Dorothy Rackemann; Secretary, Mrs. L. Archibald Hodgson; Treasurer, Mrs. Robert E. Goodell. Headquarters: Waldorf Astoria, New York 22, N.Y. The annual conference will be held at Boca Raton, Fla., Apr. 19-23, 1949.

Automobile Manufacturers Association, Inc., organized in 1913 as the Automobile Chamber of Commerce and changed to its present name in 1934. The purpose of the association is to assist in the solution of problems affecting the industry; to promote free competition of the industry's products; to collect and disseminate technical information relating to the automotive industry; to facilitate the exchange of information among its members regarding inventions, patents, trade marks, etc.; to acquire and dispose of property. Membership: 55 corporations. President, G. W. Mason; Managing Director, William J. Cronin. Headquarters: 520 New Center Building, Detroit 2, Mich.

Automotive Safety Foundation, founded in 1937 to encourage safe and efficient use of streets and highways through grants of funds and/or staff services to national, state, and local organizations active in the field. Membership: 500 supporting member companies. Chairman of Board, Alexander Fraser; President, Pyke Johnson; Treasurer, A. O. Dietz; Secretary, D. C. Fenner. Headquarters: 700 Hill Building, Washington 6, D.C.

Benevolent and Protective Order of Elks, a fraternal organization founded in 1868 "to inculcate the principles of Charity, Justice, Brotherly Love and Fidelity." Membership: 950,000. Grand Exalted Ruler (Executive Head), George I. Hall; Grand Secretary (Executive Secretary), J. E. Masters. Headquarters: Elks National Memorial Headquarters Building, 2750 Lake View Ave., Chicago 14, Ill. During 1948 the Order contributed aid and entertainment in 152 veterans' hospitals, and awarded national, state, and local scholarship prizes. Over \$5,700,000 was spent on charitable, welfare, and patriotic work. The 1949 national meeting will be held in Cleveland, Ohio, during the week of July 10.

Bibliographical Society of America, The, founded in 1904 (incorporated 1927) for those interested in bibliographical problems and projects of all kinds. Membership: 1,300. President, LeRoy E. Kimball; Editor, Earle F. Walbridge; Permanent Secretary, Jean N. Weston. Headquarters: c/o Permanent Secretary, P.O. Box 397, Grand Central Sta-

tion, New York 17, N.Y. Publications: (in preparation) *American Imprints Inventory, A Definitive Short Title Bibliography of American Literature of the Last One Hundred and Fifty Years*, and *The Cost Books of Ticknor and Fields*. The Semi-Annual Meeting will be held in New York, N.Y., Jan. 28, 1949; the Annual Meeting in June, 1949.

Big Brothers of America, Inc., United States and Canada, founded in 1946, is the national advisory organization through which (Canadian) and American groups engaged in "Big Brother" work may benefit by mutual exchange of ideas. It also works to crystallize and make effective the philosophy and psychology of the "Big Brother" approach to the social and economic problems confronting boys through expansion of existing organizations and the forming of new ones. Membership: 14 member associations. President, Charles G. Benschel; Executive Director, Donald Jenkins. Headquarters: 1517 Broad Street Station Bldg., New York 14, N.Y.

Boys' Clubs of America, founded in 1843 to unite the Jewish people and further their cultural development. Its program embraces education, social service, community service, defense of Jewish rights, and promotion of Jewish culture. It operates Hillel Clubs in 197 cities. President, Frank Goldman; Treasurer, Samuel C. Kinsworn; Secretary, Maurice Bigsby. Headquarters: 1003 K Street, NW, Washington 1, D.C.

Botanical Society of America, Inc., founded in 1906, is a clearing house for the botanists of America in all matters of general botanical interest. It supports botanical projects, sponsors the presentation of research studies before a critical and competent audience and the publication of such studies, and accepts and administers funds for certain purposes. Membership: 1,800. President, Ivey P. Lewis; Secretary, John S. Karling. Headquarters: Office of the Secretary, Department of Biological Sciences, Purdue University, Lafayette, Ind.

Boyce Thompson Institute for Plant Research, Inc., founded in 1924, is a non-profit organization for the purpose of doing basic research on plants. The results of its researches appear in the *Contributions From Boyce Thompson Institute*, now in the 17th volume; in *Professional Papers*, as well as in books and various other periodicals. Dr. William Crocker is Managing Director and Dr. John M. Arthur, Secretary. Headquarters: 1086 North Broadway, Yonkers 3, N.Y.

Boys' Clubs of America, founded in 1906, is concerned with the recreational, social, educational, vocational, and character development of boys. Membership: 300 Boys' Clubs with over 275,000 individual members. Chairman of the Board, Herbert Hoover; President, William Edwin Hall; Secretary, William Zigler, Jr.; Treasurer, Jeremiah Milbank; Executive Director, David W. Armstrong. Headquarters: 381 Fourth Ave., New York 16, N.Y. The 43d annual convention will be held in Chicago, Ill., May 1-5, 1949.

Boy Scouts of America, founded in 1910 "to promote through organization, and cooperation with other agencies, the ability of boys to do things for themselves and others, to train them in Scouting, to teach them patriotism, courage, self-reliance, and kindred virtues, by methods which are now in common use by Boy Scouts." Membership: 2,100,571. President, Amory Houghton; Treasurer, Harry M. Addinsell; Chief Scout Executive, Arthur A. Schuck; Chief Scout, Elbert K. Fretwell. Headquarters: 2 Park Ave., New York 16, N.Y. The 1949 National Council Meeting will be held at Swampscott, Mass.

British Academy for the Promotion of Historical, Philosophical, and Philological Studies, founded in 1901 to promote humanistic studies. Membership: Maximum 175. President, Sir Harold I. Bell, C.B.; Secretary, Sir Frederic G. Kenyon, G.B.E., K.C.B. Headquarters: Burlington Gardens, London, W.1, England. The annual general meeting will be held July 13, 1949, when Professor M. D. Knowles will deliver the Annual Raleigh Lecture.

British Association for the Advancement of Science, founded in York, England, in 1831. President: Sir John Russell (1949); Secretary: David N. Lowe. Headquarters: Burlington House, London, W.1, England. The Association holds Annual Meetings in cities other than London, and meetings of its Division for the Social and International Relations of Science in London, and elsewhere at other times. The Association annually sets aside money for scientific researches, papers, discussion, and results of research are printed quarterly in *The Advancement of Science*.

British Council, The, founded 1935 and incorporated 1940 to promote understanding between Great Britain and other countries by interpreting to them the land of Britain and its people, its ideas, its traditions, institutions and achievements. Officers: Chairman and Director General, Sir Ronald Adam; Secretary, R. Seymour. Headquarters: 8 Hanover St., London, W.1. Outstanding events in 1948 included award of 359 scholarships in the United Kingdom to graduates from 64 countries; the visit of the Old Vic Theatre Company to Australia and New Zealand under British Council auspices; exhibition of sculpture by Henry Moore (prize-winner) and paintings by Turner at Biennale exhibition, Venice. The 1949 Annual Meeting will be held in London, in June.

British Medical Association, The, founded in 1832 to promote the medical and allied sciences and to maintain the

honour and interests of the medical profession. Membership: 60,000. Its constitution includes a Representative Body, an elected Council, standing and special committees, and local Divisions and Branches in Great Britain and overseas. It represents the medical profession in negotiations with the Government and other bodies, advises the profession collectively and individually in all professional matters, conducts special investigations into non-clinical subjects, awards scholarships and prizes to registered practitioners and prizes to medical students and nurses. President, Sir Lionel Whitby; Secretary, Dr. Charles Hill. Headquarters: B.M.A. House, Tavistock Square, London, W.C.1, England. Publications: *British Medical Journal* (weekly); a number of quarterly scientific journals; monthly abstracts of world medicine, surgery and obstetrics, and gynecology. Affiliated with the Canadian Medical Association and the Medical Association of South Africa; member of the World Medical Association. Annual Meeting in 1949 will be held in Harrogate in June.

Camp Fire Girls, Inc., founded in 1910 to "perpetuate the spiritual ideals of the home" and "to stimulate and aid in the formation of habits making for health and character." Membership: More than 360,000. President, Mrs. James C. Zuker; Chairman of the Board and acting Treasurer, Euk W. Boring; Secretary, Mrs. Frank C. Love; National Director, Martha F. Allen. Headquarters: 16 East 48th St., New York 17, N.Y. The 1949 National Conference will be held October 23-29, in Portland, Ore.

Canadian-French Association for the Advancement of Science, founded in 1924, as a federation of 52 societies for the advancement of science, particularly in French Canada. The Association awards scholarships to young scientists; awards prizes and a medal annually for outstanding merit in the fields of natural, physical, and social sciences; advises the provincial and federal governments on legislation affecting science. President, Léon Lortie; Secretary, Lionel Lemay. Headquarters: 2900 Blvd. de Mont Royal, Montreal 26, Canada. Publication: *Annales de l'ACFAS*. The 1949 convention will be held at the University of Montreal, in October.

Canadian Geographical Society, founded in 1929 to advance geographical knowledge and to disseminate information on the geography, resources, and people of Canada. Membership: 10,000. President, Charles G. Cowan; Executive Secretary, Gordon M. Dallyn. Headquarters: 36 Elgin St., Ottawa, Canada. Publication: *Canadian Geographical Journal* (monthly). The Annual General Meeting will be held in February, 1949, at Ottawa.

Chamber of Commerce of the United States of America, founded in 1912 to encourage commercial intercourse, promote cooperation among chambers of commerce and trade associations, and secure concentration of opinion and effective action upon questions relating to economic, civic and public welfare. Membership: 2,962 Chambers of commerce and trade associations; 18,936 firms, corporations and individuals. President, Lail O. Stove; Treasurer, Ellsworth C. Ward; Executive Vice President, Ralph Bradford; Manager, Arch N. Booth. Headquarters: 1615 H St., NW, Washington 6, D.C. The annual meeting will be held May 2-5, 1949, in Washington, D.C.

Chicago Natural History Museum, founded in 1893, to gather, preserve, organize, and spread knowledge of the natural world in which we live. It contains departments of anthropology, botany, geology, and zoology. Membership: 4,760. President, Stanley Field; Treasurer, Solomon A. Smith; Director and Secretary, Clifford C. Gregg. The monthly *Bulletin* is its official organ.

Cloisters, The, a branch of The Metropolitan Museum of Art and located at Fort Tryon Park, New York City. The Cloisters, in large part the gift of John D. Rockefeller, Jr., is a museum of medieval art; among the original medieval elements incorporated into its building are four cloisters reconstructed with parts from old monasteries; a Romanesque chapel; and a complete chapter house from a 12th century monastery. Notable in the collections are a magnificent series of Gothic tapestries *The Hunt of the Unicorn*, as well as medieval sculptures, frescoes, stained glass, metalwork, and furniture.

Committee for Economic Development, founded in 1942, is a non-profit, non-partisan educational body governed by 117 leaders in business and education who are endeavoring to strengthen American capitalism through economic research. Chairman of the Board, W. Walter Williams; Chairman of Research and Policy Committee, Philip W. Reed; Chairman, Information Committee, William Cheney; Chairman, Finance Committee, Charles L. Burck; Secretary, Elizabeth H. Walker; Research Director, Theodore O. Yntema; Information Director, Nate White. Headquarters: 444 Madison Ave., New York 22, N.Y.

Consumers' Research, Inc., founded as the Consumers' Club in 1927 and incorporated in 1929, works to provide unbiased information and counsel on consumer goods. Membership: About 100,000 subscribers. President and Technical Director, F. J. Schlink; Secretary, Clark C. Willaver. Offices and Laboratory: Washington, N.J. Publication: *Consumers' Research Bulletin* (an annual cumulative issue of about 200 pages) present the findings of CR's research and testing.

Consumers Union of U.S., Inc., founded in 1936, is a nonprofit membership organization which tests and reports

on consumer goods by brand name through a monthly publication, *Consumer Reports*. *Consumer Reports* also contains articles on health and medicine, consumer economics, general buying guidance, care and repair, etc. Subscribers: 200,000. President, Dr. Colston E. Warne; Secretary, Dr. Harold Aaron; Treasurer, Bernard J. Reis. Headquarters: 17 Union Sq. W., New York 3, N.Y.

Council of State Governments, The, founded in 1925, is a joint governmental agency established and supported by the states for service to the states. It is a clearing house for information and research, a medium for improving legislative and administrative practices, an instrument for encouraging cooperation on interstate problems, and a means of securing and improving federal-state relations. Membership: Ine 48 States. Executive Director, Frank Bane. Headquarters: 1813 East 60th St., Chicago 37, Ill.

Council on Foreign Relations, founded in 1921, is a non-partisan and non-commercial organization studying the international aspects of America's political, economic, strategic, and financial problems. The results of its studies are often published. Membership: 800. Chairman of the Board, R. C. Leffingwell; President, Allen W. Dulles; Secretary, Frank Altschul. Treasurer, Clarence E. Hunter; Executive Director, Walter H. Mallory. Headquarters: 58 East 68th St., New York 23, N.Y.

Credit Union National Association, Inc., founded in 1934 to promote the organization of credit unions and to establish and maintain central agencies. Membership: 57 State and provincial Leagues composed of 12,000 credit unions with a membership of 5,000,000. President, Gurden P. Farr; Secretary, W. A. Dunkin; Treasurer, William P. Mallard. Headquarters: 1342 East Washington Ave., Madison 1, Wis. The international annual meeting will be held in Houston, Tex., May 14-15, 1949.

Civitan International, founded in 1920, is an association of civic service clubs throughout the United States and Canada dedicated to the task of improving better citizenship. Membership: 13,000. President, J. C. Richardson; Secretary, Rudolph T. Hubbard. Headquarters: 1523-28 Comer Building, Birmingham 3, Ala. Next convention will be held in Washington, D.C., June 22-25, 1949.

Cooperative for American Remittances to Europe, Inc. (CARE), founded in 1945, is a nonprofit cooperative which makes available standard food and other necessities for purchase by Americans for guaranteed delivery by CARE in Europe. CARE operates in 15 countries, under agreement with their governments. Membership: 27 leading American welfare and relief agencies. Executive Director, Paul Comly French; President, Murray D. Lurie; Secretary, Thomas Keogh; Treasurer, Harold S. Miner. Headquarters: 50 Broad St., New York 4, N.Y.

Daughters of Union Veterans of the Civil War 1861-1865, founded in 1885 to perpetuate the memory of the Union soldiers of the Civil War, celebrate patriotic anniversaries, establish scholarship funds for descendants of Civil War soldiers, and perform rehabilitation work for World War II veterans. Membership: 32,000. National President, Mrs. Bernice B. Hecht; Treasurer, Grace Hurd; Secretary, Bertha Robbins. Headquarters: 1326 18th St., NW, Washington 6, D.C. The next national convention will be held in Indianapolis, Ind., in September, 1949.

East and West Association, The, founded in 1941, is a nonprofit organization without political or religious bias devoted to the promotion of better understanding between peoples through public forums, program bureau, and education. President, Pearl S. Buck; Treasurer, Cleland Austin; Secretary, Albert H. Walsh. Headquarters: 62 West 45th St., New York 19, N.Y.

Economic History Association, Inc., founded in 1940 to encourage research and education in the history of economic activity and thought. The association publishes *The Journal of Economic History* twice a year, and *The Tasks of Economic History* once a year. Membership: Approximately 1,100. President, Herbert Heaton; Secretary, Ralph H. Bowen; Treasurer, Herman E. Krooss. Headquarters: New York University Press, Washington Square, New York 3, N.Y.

Electrochemical Society, Inc., The, founded in 1902 to promote the theory and practice of electrochemistry. Membership: 2,500. President, James A. Lee; Treasurer, William W. Winslip; Secretary, R. M. Burns. Headquarters: 235 West 102nd St., New York 25, N.Y. A meeting will be held May 3-7, 1949, in Philadelphia, Pa., and Oct. 12-15, 1949, in Chicago, Ill.

English-Speaking Union, The, founded in 1920 to draw together in comradeship the English-speaking peoples of the world. Membership: 15,000. Chairman, Edward R. Stettinius, Jr.; President, William V. Griffin; Treasurer, Henry C. Brune; General Secretary, Mrs. John Elting. Headquarters: 19 East 54th St., New York 22, N.Y. Annual Meeting to be held Dec. 1, 1949.

Esperanto Association of North America, Inc., founded in 1906 as the American Esperanto Association, reorganized under the present name in 1908. It promotes the study and use of Esperanto, the world interlanguage. *The American Esperantist* is published bi-monthly. Membership: 1,075. Acting President, Dr. William Solzbacher; General Secretary, George Alan Connor. Headquarters: 114 West 16th St., New York 11, N.Y. The 39th Congress will be held July 1-4, 1949, at Wilmington, Del., the 34th Universal

Esperanto Congress (with Summer University) Aug. 6-18, 1949, at Bournemouth, England.

Explorers Club, The, founded in 1904 (incorporated 1905) to further general exploration and to spread knowledge thereof; to acquire and maintain a library of exploration and travel; to publish *The Explorers Journal* (quarterly); to encourage explorers in their work and to bring them into personal contact and unite them in the bonds of sympathetic interest. Membership: 750. President, Clyde Fisher; Secretary, Dr. Erich M. Schlaikjer; Treasurer, Marvin W. Williams. Headquarters: 10 West 72nd St., New York 23, N.Y. The Annual Dinner and report on the progress of exploration to be held Jan. 15, 1949. Illustrated lectures for members and guests held twice monthly, October-May; also 8 public lectures.

Family Service Association of America, founded in 1911, provides private and public family service agency members with the means (1) to improve the methods they use in their communities to counsel and aid families with personal, social, or emotional problems and (2) to contribute on a combined basis to the development and betterment of family life. Membership: 245 agencies; 1,000 individuals. President, Brooks Potter; General Director, Frank J. Hertel. Headquarters: 122 East 22nd St., New York 10, N.Y.

Farmers Educational and Cooperative Union of America, founded in 1902, is an organization of working farm families cooperating in a program for themselves, for agriculture, and for the common welfare of all working farm families. It is made up of local and community groups which compose county and state organizations, all of which are tied into the national organization. Membership: 450,000. President, James G. Patton; Secretary-Treasurer, Tony T. Dechant. Headquarters: 8501 East 46th Ave., Denver 16, Colo.

Foreign Policy Association, founded in 1918, is an important, non-partisan, research organization working for the constructive development of American foreign policy. Membership: 30,000. President, Brooks Emeny; Secretary, Helen M. DeCott; Treasurer, Frederic Seligman. Headquarters: 22 East 35th St., New York 16, N.Y.

Foster Parents' Plan for War Children, Inc., founded in 1938 to help children victimized by the war. It provides food, clothing, and medical aid through headquarters and committees in Europe and China. Social workers and child psychologists aid in re-education and rehabilitation. International Chairman, Edna Blue; European Director, Frederick Mason; Secretary-Treasurer, Ann Landress. Headquarters: 55 West 42nd St., New York 18, N.Y.

Four-H (4-H) Clubs, founded in 1914, 4-H (head, heart, hands, and health) Clubs are local groups of boys and girls between the ages of 10 and 21, organized by extension agents cooperatively employed by the U.S. Department of Agriculture, the State agricultural colleges, and the local county governments. The purpose of the 4-H Club is to provide rural young people an opportunity to learn the value of science through using it in their own farming and homemaking projects; to develop leadership and the ability to work with others; to develop civic interest and a sense of responsibility as citizens. Membership: 1,800,000. National 4-H events for 1949 include: 4-H Club Week—March 5-13; 4-H Club Camp—Washington, D.C., June 15-22; 4-H Achievement Week—November 5-13; 4-H Club Congress—Chicago, Ill., November 27-December 1. Chief, Division of Extension Information: L. A. Schlup, Extension Service, U.S. Dept. of Agriculture, Washington 25, D.C.

Future Farmers of America, founded in 1928 to develop agricultural leadership, cooperation, and citizenship in farm youth. Membership: 260,800. President, Ervin Martin; Student Secretary, Eugene Hansen. Headquarters: U.S. Office of Education, Washington 25, D.C.

Garden Club of America, founded in 1913 to encourage amateur gardening, to protect native plants and birds, and to encourage civic planting. Membership: Approximately 8,000. President, Mrs. Hermann G. Place; Recording Secretary, Mrs. Gray McW. Bryan; Corresponding Secretary, Mrs. John D. Beals, Jr.; Treasurer, Mrs. George Reed, Jr. Headquarters: 15 East 58 St., New York 22, N.Y.

General Federation of Women's Clubs, founded in 1890 to unite women's clubs and similar organizations throughout the world for the promotion of education, philanthropy, public welfare, moral values, civics, and fine arts. International membership: 11,000,000 in 16,500 clubs. President, Mrs. J. L. Blair Buck; Recording Secretary, Mrs. Earl B. Shoemith; Treasurer, Mrs. Charles L. Fuller. Headquarters: 1734 N St., NW, Washington 6, D.C. The 1949 convention will be held in Hollywood, Fla., April 25-29.

Geological Society in America, The, founded in 1888 for the advancement of the science of geology in North America. Membership: 1,193 Fellows, 242 Members, and 83 Correspondents. President, Chester R. Longwell; Secretary, H. R. Aldrich; Treasurer, J. Edward Hoffmeister. Headquarters: 419 West 117th St., New York 27, N.Y. Penrose Medal to Hans Cloos; Arthur L. Day Medal to George W. Morey. A meeting will be held at El Paso, Tex., Nov. 10-12, 1949.

Girl Scouts of the United States of America, founded in 1912 to help girls develop into good citizens through guided work and play in small groups with girls of their own ages and interests. The organization is non-sectarian and non-political, and is open to girls of all races and

creeds between the ages of 7 and 17. The Girl Scouts of the United States is a member with 30 foreign countries of the World Association of Girl Guides and Girl Scouts. Membership: 1,384,864 (399,721 Brownies; 614,035 Intermediate Girl Scouts; 58,739 Senior Service Scouts; 312,369 adult troop leaders, associate Girl Scouts, etc.). President, Mrs. C. Vaughan Ferguson; Chairman of the Executive Committee, Dr. Mary H. S. Hayes; Treasurer, Mrs. Nathan Mobley; Secretary, Mrs. Dudley H. Mills. Headquarters: 155 East 44th St., New York 17, N.Y. On October 29, 1948, the United States Government issued a commemorative stamp honoring Juliette Low, founder of the organization.

Goodwill Industries of America, Inc., founded in 1902 to provide employment, training, rehabilitation, and opportunities for personal growth for the handicapped and disabled through the establishment and development of Goodwill Industries. Membership: 86 member and 3 non-member units in the United States; 1 Canadian Goodwill Industries. President, James T. Buckley; Recording Secretary, Robert E. Watkins; Treasurer, W. J. Elliott; Executive Secretary, Oliver A. Friedman. Headquarters: 744 North Fourth St., Milwaukee 3, Wis.

Grolier Club, The, founded in 1884 for literary study and promotion of the arts pertaining to the production of books. Membership: 482. President, Frederick B. Adams, Jr.; Treasurer, LeRoy E. Kimball; Secretary, C. Franklin Ludington. Headquarters: 47 East 60th St., New York 22, N.Y. The Club held five exhibitions in 1948 and published: *The Engraved & Typographic Work of Rudolph Ruzicka* and *List of Publications, Exhibition Catalogues and other Items Issued by The Grolier Club 1884-1948*.

Hadassah (The Women's Zionist Organization of America, Inc.), founded in 1912 to foster Zionist ideals in America and conduct hospitalization, public health, child welfare, land reclamation, and youth refuge work in Palestine. It is the official American representative of the Youth Aliyah movement. Membership 250,000. President, Mrs. Samuel W. Halpin; Treasurer, Mrs. Abraham Tulin; National Secretary, Mrs. Elliot F. Glassberg; Executive Secretary, Jeannette N. Liebel. Headquarters: 1819 Broadway, New York 23, N.Y.

Henry E. Huntington Library and Art Gallery, is an endowed educational institution. It includes a research library, specializing in English and American literature and history, a free public museum, an art gallery, and the Botanical Gardens. In 1919 the institution was deeded to a self-perpetuating board of trustees, for the use and benefit of all qualified persons. In 1928 the exhibitions were opened to the public. Nearly 70 volumes of studies have been published by the library. Address: San Marino, Calif.

Henry George School of Social Science, The, founded in 1932 for the teaching of fundamental economics and social philosophy, is a non-profit institution chartered by the University of the State of New York. There are 20 Extensions of the School in the U.S.A. and 4 in Canada. Honorary President, John Dewey; President, John C. Lincoln; Director, Robert Clancy. Headquarters: 50 E. 69th St., New York 21, N.Y. The 1949 conference will be held in New York July 22-24. Publications: Teachers Manuals; *Henry George News* (monthly).

Hispanic Society of America, The, founded in 1904, is an educational institution designed to advance the knowledge of the Spanish and Portuguese languages, literatures, and history. The society maintains a free public library and a museum and has issued about 600 volumes relating to Spanish art, history, and literature. Membership is honorary and limited to 100 members and 300 corresponding members. President, Archer M. Huntington; Secretary, Benjamin A. Morton. Headquarters: Broadway, between 155th and 156th Sts., New York 32, N.Y.

Holy Name Society, founded in 1274, as a worldwide confraternity of Catholic men to promote spirituality and foster devotion to the Holy Name of God. Membership: 3,500,000. National Director, Very Rev. H. C. Graham, O.P. National Headquarters: 141 East 65th St., New York 21, N.Y.

Industrial Research Institute, Inc., was organized in 1938 under the auspices of the National Research Council and incorporated in 1945. It seeks to promote high standards in industrial research, and to increase the understanding thereof. Membership: 106 companies. President, E. W. Engstrom; Secretary-Treasurer, C. G. Worthington. Headquarters: 60 East 42nd St., New York 17, N.Y.

Institute of International Affairs, Canadian, founded in 1928, is an unofficial, nonpartisan, nonprofit organization to promote and facilitate the study of international affairs and those domestic issues related to the world scene. The Institute has a wide program of public education and research, organizes regional, national, and international conferences; maintains a free library and information service; publishes *Contemporary Affairs* pamphlets, *International Journal* (quarterly), etc. Membership: 2,455. President, R. M. Fowler; National Secretary, Douglas A. MacLennan. Headquarters: 230 Bloor St., West, Toronto 5, Canada.

Institute of International Education, founded in 1919 to create better understanding among the peoples of the world through the medium of educational exchanges. The Institute is a non-profit organization. More than 1,000 scholarships and fellowships were awarded for the academic year

1948-49. Administered scholarships and fellowships worth more than \$2 million for over 800 universities and private organizations, in addition to Government and UNESCO grants. Publications: (monthly) *News Bulletin*, *Annual Report*, *Meet the U.S.A.* (handbook for foreign students). President: Laurence Duggan (died Dec. 20, 1948); Vice President: Donald J. Shank. Headquarters: 2 West 45th St., New York 19, N.Y.

Institute of Mining and Metallurgy, Canadian, founded in 1898 in affiliation with the Mining Society of Nova Scotia to encourage and promote the mining and metallurgical industries of Canada; to advance the arts and sciences pertaining thereto; to foster ideals of public service. Membership: 4,050. President, R. W. Diamond; Secretary-Treasurer and Executive Director, E. J. Carlyle. Headquarters: 908 Drummond Building, 1117 St. Catherine St., West, Montreal 2, Canada. The 51st Annual General Meeting will be held in Montreal, Canada, Apr. 24-28, 1949.

Institute of Pacific Relations, Pacific Council, founded in 1925, is an unofficial and nonpartisan organization to facilitate the scientific study of the peoples of the Pacific area. It publishes books and the journal *Pacific Affairs*. Membership: 12 autonomous national councils. Chairman, Huntington Gilchrist; Secretary-General, William L. Holland; Chairman, Research Committee, Sir George Sansom. Headquarters: 1 East 54th St., New York 22, N.Y. The next I.P.R. international conference will be held in 1950.

Institute of Public Administration, founded in 1906 to improve the management and operation of American government first through scientific study of administration and secondly through dissemination of the results of such study to public officials and citizens generally. Membership: 9 trustees; 8 permanent professional staff members. Chairman, Richard S. Childs; President, Luther Gulick; Treasurer, Henry Bruere; Secretary, Bruce Smith. Headquarters: 684 Park Ave., New York 21, N.Y.

International Association of Lions Clubs, founded in 1917. Lions Clubs are nonpolitical and nonsectarian civic organizations composed of representative business and professional men interested in the development of their community. Membership is by invitation. There are over 7,000 Lions Clubs with 400,000 members. President: Eugene S. Briggs; Secretary-General, Melvin Jones. Headquarters: McCormick Building, 832 South Michigan Ave., Chicago 4, Ill. The 1949 Annual International Convention will be held July 18-21 in New York, N.Y.

International City Managers' Association, founded in 1914 to increase the proficiency of city managers and to aid in the improvement of municipal government in general. Membership: Approximately 1,200. President, John H. Ames; Director, Clarence E. Ridley. Headquarters: 1313 East 60th St., Chicago 37, Ill. A meeting will be held Dec. 4-8, 1949, in Palm Beach, Fla.

International College of Surgeons, founded in 1935 in Geneva, Switzerland, to create a common bond among the surgeons of all nations and to promote the highest standards in surgery throughout the world without regard to nationality, creed or color. Membership: 6,000. President, Dr. Francisco Grana; Secretary General, Dr. Max Thorek, 850 W. Irving Park Rd., Chicago 13, Ill. Headquarters: 1516 Lake Shore Drive, Chicago, Ill. The 1950 international assembly will be held in Buenos Aires.

International Conference of Social Work, organized in 1925 to provide an international forum for discussion of social work, to stimulate international social work, to facilitate the exchange of information, and to promote cooperation between all international organizations related to social welfare. It is non-political, non-governmental, and non-sectarian. Membership: 3,000. President, George E. Haynes (England); Treasurer-General, William H. Dewar, (Canada); Secretary-General, Joe R. Hoffer (United States). Headquarters: 82 North High St., Columbus 15, Ohio.

International Federation of Business and Professional Women, founded in Geneva, Switzerland, in 1930, to promote friendly relations among the business and professional women of all countries, to secure combined action by them, and to work for high business and professional standards of service. International President (U.S.A.), Sally Butler; Treasurer (U.S.A.), Mrs. Isabelle Claridge Taylor; Secretary (Oslo, Norway), Bergliot Lie. Headquarters: Biltmore Hotel, Madison Ave., New York 17, N.Y.

International Order of The King's Daughters and Sons, Inc., founded in 1866 for "the development of spiritual life and stimulation of Christian activities." Membership: Approximately 55,000. President, Mrs. Frederic Bond; Executive Secretary and Editor of *Silver Cross*, Mrs. Frank G. Lopez. Headquarters: 144 East 87th St., New York 16, N.Y. An educational program is conducted at the Chautauqua Institute, Chautauqua, N.Y. for scholarship students. The General Convention will be held in 1950 at Buffalo, N.Y.

International Peasant Union, founded in 1947 for the liberation of the southeastern European countries and organization of the peasantry of the world. Membership: Hungary, Poland, Bulgaria, Rumania, Croatia, Serbia. Central Committee: Ferenc Nagy; Stanislaw Mikolajczyk; Vladko Machek; Georgi M. Dimitrov; Grigore N. Buzesti; Milan Gavrilovic. Headquarters: 724 9th St., NW, Washington, D.C.

International P.E.N. Club, The, founded in 1921, is a world association of writers, editors, and translators in all branches and classes of literature. Its object is to promote friendship between men of letters in all countries in the interests of literature, freedom of expression, and international good will. It is not concerned with state or party politics. Membership: Approximately 6,000. International President, Maurice Maeterlinck; International Secretary, Hermon Ould. Headquarters: 62 Glebe Place, Chelsea, London, S.W.3, England. The 1949 congress will be held in Venice, Italy.

International Rescue, Inc. (formerly International Rescue and Relief Committee, Inc.), founded in 1933 to aid anti-totalitarian refugees. Special emphasis is placed on rescue of refugees from behind the Iron Curtain and on relief and rehabilitation of these people. The projects include a children's home, a recuperation center for concentration camp victims, and a hospitalization program. IR was a member agency of the National War Fund and now administers programs for the International Refugee Organization. Chairman, L. Hollingsworth Wood; Treasurer, David F. Seiferheld; Executive Secretary, Sheba Strunsky. Headquarters: 103 Park Ave., New York 17, N.Y.

International Society of Christian Endeavor, founded in 1887 to minister to Protestant youth in the churches through printed material and conventions, and activity programs. Membership: 4,000,000. President, Daniel A. Poling; General Secretary, Ernest R. Bryan; Associate General Secretary, P. Marion Simms, Jr.; Administrative Secretary and Treasurer, Charles E. F. Howe. Headquarters: 1201 East Broad St., Columbus 5, O. The Society publishes *The Christian Endeavor World*. 40th International Convention will be held in Toronto, Canada, July 5-10, 1949.

Isaac Walton League of America, Inc., founded in 1922, is a national conservation organization equipped to deal with natural resource management within local, state, and national boundaries. It cooperates with government agencies when its attitude is sympathetic and fights them when it feels their actions are ill-advised or influenced by political considerations. Publication: *Outdoor America*. Membership: Approximately 500 chapters. President, Walter Frye; Executive Director, Kenneth A. Reid. Headquarters: 31 North State St., Chicago 2, Ill. The annual convention will be held June 24-26, 1949, at Denver, Colo.

Kiwanis International, founded in 1915, is an organization of business and professional leaders dedicated to youth and community service in more than 2,900 communities in the United States, Canada, Alaska, and Hawaii. Membership: 190,000. President, J. Belmont Mosser; Treasurer, J. Hugh Jackson; Secretary, O. E. Peterson. Headquarters: 520 North Michigan Ave., Chicago 11, Ill. The International Convention in 1949 will be held June 19-23 in Atlantic City, N.J.

Knights of Pythias, founded in 1864, is a fraternal organization whose activities embrace philanthropic work of various kinds. A number of subsidiary bodies include the Pythian Sisters and the Sunshine Girls. These junior bodies foster the moral welfare of persons between the ages of 14 and 21. The Dramatic Order Knights of Khorassan is the "playground" of the order. A military department emphasizes the patriotic duty of Pythians. Membership: 300,000. Supreme Chancellor, Fred Ratliff; Supreme Secretary, Melvin M. Ewen. Headquarters: 1054 Midland Bank Building, Minneapolis 1, Minn.

League of Composers, Inc., The, founded in 1923 to promote contemporary music and help living composers by giving concerts and broadcasts and sponsoring records and publications. Chairman, Board of Directors, Aaron Copland; Chairman, International Committee, Mrs. Arthur M. Reis; Chairman, Program Committee, Robert Ward; Executive Director, Richard F. Goldman. Headquarters: 113 West 57th St., New York 19, N.Y.

League of Women Voters of the U.S., founded in 1920 to encourage the responsible participation of citizens in government. Membership: 88,000. President, Anna Lord Strauss; Treasurer, Mrs. Bradford L. Patton; Secretary, Mrs. James G. Scarborough. Headquarters: 726 Jackson Place, Washington 6, D.C. The biennial convention will be held in April, 1950, at Atlantic City, N.J.

Library Association, The, founded in 1877 to promote better administration of libraries, unite all persons engaged or interested in library work, hold examinations in librarianship, and maintain a register of qualified persons (fellows and associates). Membership: 8,000. President, Sir Ronald Adam; Honorary Secretary, L. R. McColvin; Honorary Treasurer, Raymond Irwin; Secretary, P. S. J. Welsford. Headquarters: Chaucer House, Malet Place, London, W.C.1, England. *The Library Association Record* is published monthly. The national meeting will be held May 23-27, 1949, in Eastbourne, England.

Linguistic Society of America, founded in 1925 to advance the scientific study of language. Membership: 730 individuals, 300 libraries. President, Murray B. Emeneau; Vice President, Zellig Harris; Secretary-Treasurer, J. M. Cowan. Headquarters: c/o Secretary, Morrill Hall, Cornell University, Ithaca, N.Y.

Loyal Order of Moose, founded in 1888, is a fraternity which strives to unite mankind and elevate society through the application of lofty principles to daily life. Membership: 947,713. Supreme Governor, Walter F. Gibson; Execo-

utive Director and Supreme Secretary, Malcolm R. Giles. Headquarters: Mooseheart, Ill. The 1949 convention will be held in San Francisco, Calif., August 14-19.

Luther League of America, founded in 1895, is the official youth organization of the United Lutheran Church in America for the purpose of banding young people together in fellowship, worship, service and education; to train them for adult leadership in the church. Membership: 30,248. President, H. L. Logan; Secretary, Ruth Blackburn; Treasurer, Howard Turkheimer; Executive Secretary, Rev. Joseph W. Frease. Headquarters: 1228 Spruce St., Philadelphia 7, Pa. A National Convention will be held at Roanoke, Va., Aug. 15-19, 1949.

Marine Biological Laboratory, founded in 1888 as a nonprofit organization for the promotion of biological research including biochemistry, biophysics, and radiobiology. Courses of graduate level are offered in Embryology, General Physiology, Marine Botany, and Invertebrate Zoology. Membership: 470. Director, Charles Packard; Treasurer, D. M. Brodie; Clerk, O. C. Glaser. Headquarters: Woods Hole, Mass. Rumford Medal to E. N. Harvey; T. W. Richards Medal to E. J. Cohn. The Annual Meeting will be held at Woods Hole, Mass., Aug. 9, 1949.

Mathematical Association of America, founded in 1916 to hold meetings for the presentation and discussion of papers dealing with mathematics at the collegiate level, and to publish books and a periodical dealing with such mathematics. Membership: 3,200. President, R. E. Langor; Secretary-Treasurer, H. M. Gehman. Headquarters: University of Buffalo, Buffalo 14, N.Y. A joint meeting with the American Association for Engineering Education will be held in June 1949 at Troy, N.Y. The summer meeting will be held at the University of Colorado, Boulder, Colo. in September.

Mediaeval Academy of America, founded in 1925 to conduct, encourage, and support research publication and instruction in mediaeval record, languages, literature, arts, archaeology, history, philosophy, science, and all other aspects of mediaeval civilization. Membership: 1,100. President, F. N. Robinson; Executive Secretary, Charles R. D. Miller. Headquarters: 1430 Massachusetts Ave., Cambridge 38, Mass. *Speculum*, the journal of the Academy, is published quarterly. The 1949 annual meeting will be held April 8-9, in Toronto, Canada.

Metropolitan Museum of Art, The, founded in 1870 for the purpose of "establishing and maintaining in the City of New York a Museum and library of art, . . . encouraging and developing the study of the fine arts, . . . and . . . furnishing popular instruction." Membership: 7,528. President, Roland L. Redmond; Secretary, Dudley T. Easby, Jr.; Treasurer, J. Kenneth Loughry; Director, Francis Henry Taylor. Headquarters: Fifth Ave. and 82nd St., New York 28, N.Y. The museum collections cover a period of some 5,000 years, representing the arts of the Ancient World, the Near and Far East, Europe, and the United States. Permanent displays are supplemented by changing special exhibitions including some of the most important collections in this country and abroad.

Middle East Institute, The, founded in 1946 for the purpose of developing among the American people an interest in, and more complete understanding of, the countries of the Middle East by means of conferences, publications, research, and teaching. The Institute maintains a graduate fellowship program in which the facilities for training are arranged in collaboration with the School of Advanced International Studies and other accredited institutions of higher learning. Membership: approximately 250. Chairman of the Board, George Camp Keiser; Editor of *The Middle East Journal*, Harvey P. Hall; Executive Secretary, John E. Marsh. Headquarters: 1906 Florida Ave., NW, Washington 9, D.C. Annual meeting and conference will be held Mar. 4-5, 1949, in Washington, D.C.

Mineralogical Society of America, founded in 1916 to advance the study of mineralogy, crystallography, and allied sciences. Membership: 956 members, 592 subscribers. President, John W. Gruner; Secretary, C. S. Hurlbut, Jr.; Treasurer, Earl Ingerson. Headquarters: Harvard University, Cambridge 38, Mass. The 1948 Roebling Medal to Sir Lawrence Bragg.

Modern Language Association of America, founded in 1883 for the advancement of research in modern languages and their literatures. Membership: About 6,000. President, George Sherburn; Executive Secretary, William R. Parker. Headquarters: 100 Washington Square East, New York 3, N.Y. Annual meeting will be held in New York, Sept. 7-9, 1949.

Museum of Fine Arts, Boston, The, founded in 1870, in order to acquire, preserve, and display great works of art and to give education in the arts. It covers the fields of Asiatic, Near Eastern, Islamic, Greek and Roman, and Egyptian arts as well as the Decorative Arts of Europe, prints and drawings, and paintings both European and American. It carries on an extensive educational program and has a flourishing school for creative artists. It brings out numerous publications in addition to its regular *Bulletin*. President of corporation, Edward J. Holmes; Director, G. H. Edgell.

National Aeronautic Association, founded in 1905 as the Aero Club of America, it assumed its present name in 1922. NAA works through local chapters to distribute information

about aviation and give effective national expression to community views on aviation policy. President, Louis E. Leverone; Secretary, Mrs. William E. Brown; Treasurer, Horace P. Bromfield; Executive Vice President, R. M. Phelps. Headquarters: 1025 Connecticut Ave., Washington 6, D.C. The annual world conference of *Fédération Aéronautique Internationale*, of which NAA is the United States representative, will be held in Cleveland, O., the week preceding Labor Day, 1949. NAA's annual convention will be held in Akron, O.

National Association for the Advancement of Colored People, founded in 1909 to safeguard the political, civil, and legal rights of colored citizens and secure for them equality of opportunity. Membership 550,000. President, Arthur B. Spingarn; Secretary, Walter White; Chairman of Board, Louis T. Wright. Headquarters: 20 West 40th St., New York 18, N.Y. Spingarn Medal to Dr. Channing H. Tobias. The 40th annual conference will be held in Los Angeles, Calif., in July, 1949.

National Association of Broadcasters, founded in 1922 to foster the art of broadcasting, protect its members, and encourage customs and practices which will strengthen the broadcasting industry to the end that it may best serve the public. Membership: 2,003. Secretary-Treasurer, C. E. Arner, Jr. Board of Directors: 17 district representatives, and 8 Directors-at-Large. Headquarters: 1771 N St., NW, Washington 6, D.C.

National Association of Legal Aid Organizations, founded in 1923, is an outgrowth of the former National Alliance of Legal Aid Societies. Its purpose is to promote and develop legal aid work, to encourage the formation of new legal aid organizations, to provide a central body with defined duties and powers for the guidance of legal aid work, and to cooperate with the judiciary, the bar, and other organizations interested in the administration of justice. Membership: 61 organizations in the United States and Canada. President, Raymond M. Campbell; Treasurer, Wayne Theophilus; Secretary, Henry A. Brownell. Headquarters: 25 Exchange St., Rochester 4, N.Y. The midwinter meeting of the Executive Committee will be held in New York City in January, 1949.

National Association of Manufacturers, founded in 1895 to foster the domestic and foreign commerce of the United States and improve relations between employers and employees. Membership: Approximately 16,500. President and Chairman of the Board, Morris Sayre; Managing Director, Earl Bunting; Secretary, Noel Sargent; Treasurer, Kenneth R. Miller. Headquarters: 14 West 49th St., New York 20, N.Y. The National Congress of American Industry is held annually in December.

National Association of Postmasters of U.S., chartered under laws of Illinois in 1935 and organized for the mutual benefit of postmasters and to cooperate with the post office department in maintaining a high standard of service to the public. Membership: over 32,000 in 48 State Chapters and chapters in Puerto Rico, Alaska, Hawaii, Guam, Samoa. Publication: *Postmasters Gazette*. President, Burris C. Jackson; National Secretary-Treasurer, Frank J. Horak; Editor, Dan L. Gibson. Headquarters: 1111 Seventeenth St., NW, Washington 6, D.C.

National Audubon Society, founded in 1905 to arouse public appreciation and understanding of the value and need of conservation of soil, water, plants, and wildlife; their interdependence and the relation of their treatment and use to human welfare; to assist in creating an enlightened citizenry demanding furtherance of conservation of natural resources. Membership: about 50,000. Some 400,000 junior club members enroll annually. Chairman of the Board, Lindow Griscom; President, John H. Baker; Secretary, G. Lister Carlisle; Treasurer, Gay Emerson. Headquarters: 1000 Fifth Ave., New York 28, N.Y. The 1949 annual convention will be held in New York, N.Y., on the 3d Tuesday in October.

National Board of Review of Motion Pictures, Inc., founded in 1909, is an independent nonprofit organization to express public reaction to and public responsibility concerning the motion picture. It provides organizations and individuals with advance information about pictures. It offers a constructive program for the study, support, and best use of the motion picture. It is opposed to all forms of censorship. President, Quincy Howe; Secretary and Treasurer, Henry Hart. Executive Director, Richard Griffith. Headquarters: 31 Union Square West, New York 3, N.Y. The 40th conference of the National Board of Review of Motion Pictures will be held in New York, N.Y., in March, 1949.

National Bureau of Economic Research, Inc., founded in 1920 to encourage, in the broadest and most liberal manner, investigation, research and discovery, and the application of knowledge to the well-being of mankind. In particular, it contributes to exact and impartial investigation in the field of economic, social, and industrial science, and to this end cooperates with governments, universities, learned societies, and individuals. Membership: 31 members of the Board of Directors. Director of Research, Arthur F. Burns; Executive Director, William J. Carson; Chairman, C. Reinold Noyes; President, Harry W. Laidler; Treasurer, George B. Roberts. Headquarters: 1819 Broadway, New York 23, N.Y.

National Catholic Welfare Conference, founded in 1919 for the purpose of "unifying, coordinating, and organizing

the Catholic people of the United States in works of education, social welfare, immigrant aid, and other activities." Membership: 178 archbishops and bishops of the U.S.A., 7,500 affiliated societies. Chairman of the Board, Most Rev. John T. McNicholas; Treasurer, Most Rev. John M. Gannon; Secretary, Most Rev. John F. Noll. Headquarters: 1812 Massachusetts Ave., NW, Washington 5, D.C.

National Child Labor Committee, founded in 1904 (incorporated 1907) to protect children from employment under conditions prejudicial to their health, education or welfare; to improve the educational opportunities and placement services for youth. Membership: 17,000. Chairman, Eduard C. Lindeman; Treasurer, Robert Faig. Headquarters: 419 Fourth Ave., New York 16, N.Y. A meeting will be held during the National Conference of Social Work in Cleveland, Ohio, June 15, 1949.

National Civil Service League, founded in 1881 to encourage the adoption in government of a modern personnel system based on merit, and the exclusion of partisan control of public employment. Membership: Approximately 3,000. President, Nicholas Kelley; Treasurer, Ogden H. Hammond; Chairman of the Council, Robert L. Johnson; Chairman of Executive Committee, Winston Paul; Executive Secretary, H. Eliot Kaplan. Headquarters: 120 East 29th St., New York 16, N.Y.

National Conference of Christians and Jews, Inc., founded in 1928 to promote justice and understanding among Protestants, Catholics, and Jews, and to analyze, moderate, and finally eliminate intergroup prejudice. Membership: 80,000. President, Everett R. Cliney; Treasurer, Herbert J. Osborne. Headquarters: 381 Fourth Ave., New York 16, N.Y.

National Council of Catholic Men, founded in 1922 to coordinate in a common voluntary council all existing Catholic men's organizations; to serve as a medium for the dissemination and exchange of information; to promote understanding and action for the common good. Membership: 3,000 societies. President, Emmet A. Bliss; Secretary, Thomas E. Sly; Treasurer, James H. McCaffrey; Executive Secretary, James E. Mitchell. Headquarters: 1312 Massachusetts Ave., NW, Washington, D.C. A meeting will be held in Washington, D.C., Apr. 23-24, 1949.

National Council of Farmer Cooperatives, founded in 1928, functions as a conference body speaking for farmer cooperative marketing and purchasing associations. Membership: 114 associations with a farmer membership of approximately 8,800,000. President, H. H. Ruthven (died Sept. 29, 1948); Executive Secretary, John H. Davis; Treasurer, Freda B. Couch. Headquarters: 744 Jackson Place, NW, Washington 6, D.C.

National Council of Jewish Women, founded in 1893, has a program of local and overseas service and education. It maintains homes for the shelter and rehabilitation of unattached Jewish women in Athens and Paris, offers welfare work scholarships at American universities to qualified Jewish women who will return to their communities to do social reconstruction work, and serves the varied needs of the immigrant before and after arrival in this country. Membership: 73,000. National President, Mrs. Joseph M. Welt; Chairman of Executive Committee, Mrs. Irving M. Engel; Executive Director, Mrs. Elsie Elfenbein. Headquarters: 1819 Broadway, New York 23, N.Y.

National Council of Young Men's Christian Associations formed as a national committee in 1886. The first local organization was formed in London in 1844 (in the United States in 1851), for the physical, mental, social, moral, and religious education of youth. Membership: 1,701,463 in local associations. President, Eugene R. McCarthy; General Secretary, Eugene E. Barnett. Headquarters: 347 Madison Ave., New York 17, N.Y. Five million dollars were reported raised toward a postwar fund for restoring associations in war-devastated areas abroad. Participation was voted in reactivation of USO on a modified basis. Official consultative relations with the United Nations were maintained through the World's Committee of Y.M.C.A.'s at Geneva.

National Education Association of the United States, founded in 1857 to advance the interests of the teaching profession, promote the welfare of children, and foster the education of all the people. Membership: 441,127. President, Mabel Studebaker. Headquarters: 1201 16th St., NW, Washington 6, D.C. A meeting will be held in Boston, Mass., July 8-8, 1949.

National Farm Chemurgic Council, Inc., founded in 1935 to advance the industrial use of American farm products through applied science. The Council is educational, nonprofit, and nonpolitical. Membership: Over 4,000. President, Wheeler McMillen; Assistant to President and Treasurer, John W. Ticknor; Secretary, Richard R. Tryon. Headquarters: 350 Fifth Ave., New York 1, N.Y. The 14th annual chemurgic conference will be held in Memphis, Tenn., Mar. 30-Apr. 1, 1949.

National Federation of Business and Professional Women's Clubs, Inc., The, founded in 1919 to improve conditions in all professions and businesses and prepare members for leadership. Membership: 140,000. President, K. Frances Scott, M.D.; Executive Director, Olive H. Huston. Headquarters: 1819 Broadway, New York 23, N.Y. The next biennial convention will be held in San Francisco, Calif. July 3-7, 1950.

National Federation of Music Clubs, founded in 1898, is a

philanthropic organization which grants scholarships, builds music studios, organizes choir clinics, etc. Membership: Approximately 5,000 clubs, with nearly 500,000 members. Mrs. Royden James Keith, President. Headquarters: 812 Kimball Building, 306 South Wabash Ave., Chicago 4, Ill.

National Foundation for Infantile Paralysis, The, founded in 1938 to direct and unify the fight against infantile paralysis. Activities include research, education, epidemic aid, and medical care. Grants are made to institutions, and scholarships and fellowships are offered. Membership: 2,819 chapters. President, Basil O'Connor; Vice President and Secretary, William F. Snyder; Treasurer, Howard W. Dayton. Headquarters: 120 Broadway, New York 5, N.Y.

National Fraternal Congress of America, founded in 1886 to unite all fraternal benefit societies of America for mutual improvement and concerted action. Membership: 108 societies. President, Jeanie Willard; Vice President, George G. Perrin. Headquarters: 35 East Wacker Drive, Chicago 1, Ill. A meeting will be held in Washington, D.C. in September, 1949.

National Gallery of Art, established by the Congress in 1937, to assemble and maintain a national collection of paintings, sculpture, and the graphic arts, representative of the best in the artistic heritage of America and Europe. The building, was constructed with funds given for the purpose by Andrew W. Mellon. The Gallery's collections of more than 16,000 works of art represent the Mellon, Kress, Widener, Chester Dale, Rosenwald Collections, etc. Frequent temporary exhibits are held; that of "Paintings from the Berlin Museums," was attended by nearly a million visitors between Mar. 17-Apr. 25, 1948. Publications include *Masterpieces of Painting from the National Gallery of Art*. Attendance for the fiscal year 1948 was 2,159,435. Director: David E. Finley. Headquarters: The Mall, Washington 25, D.C.

National Geographic Society, The, founded in 1888 for the increase and diffusion of geographic knowledge. Membership: 1,800,000. President and Editor, Gilbert Grosvenor; Vice President and Associate Editor, John Oliver La Gorce; Secretary, Thomas W. McKnew; Treasurer, Robert V. Fleming. Headquarters: 1146 Sixteenth St., NW, Washington 6, D.C. *The National Geographic Magazine* is the official publication of the Society.

National Grange, The (Patrons of Husbandry), founded in 1867 for the educational, social, economic, and legislative advancement of agriculture. Membership: About 811,000. Master, Albert S. Goss; Lecturer, Edward F. Holter; Secretary, Harry A. Caton. Headquarters: National Grange Building, 744 Jackson Place, NW, Washington 6, D.C.

National Guard Association of the United States, The, founded in 1879 and recently reorganized as an individual membership organization. Membership: About 20,000. President, L. A. Walsh; Secretary, Fred M. Waterbury. Headquarters: 400 6th St., NW, Washington 1, D.C. The Association works zealously for universal military training.

National Health Council, founded in 1921, aims at the prevention of disease and maintenance of public health through common planning and action of its members and development of citizen participation and support for measures that will help the individual maintain maximum mental and physical health. President, Philip R. Mather; Secretary, Reginald M. Atwater, M.D.; Treasurer, Haven Emerson, M.D. Headquarters: 1790 Broadway, New York 19, N.Y.

National Heart Institute, established by the Congress in 1948, to conduct, support, and foster research and training in diseases of the heart and circulation and to aid the States in the development of community programs for the control of these diseases. The Institute, one of the National Institutes of Health, is the focal point of leadership and coordination for the total heart program of the Public Health Service. Director: C. J. Van Slyke, M.D. Headquarters: National Institutes of Health, Public Health Service, Bethesda 14, Md.

National Industrial Conference Board, Inc., founded in 1916, is an independent and nonprofit research institution in the field of industrial economics. It is supported by business organizations, labor unions, government agencies, trade associations, libraries, colleges and universities. Membership: Approximately 3,000. President, Virgil Jordan; Secretary, Clyde L. Rogers. Headquarters: 247 Park Ave., New York 17, N.Y. Meetings are held each month except during the summer.

National Information Bureau, Inc., founded in 1918, is a nonprofit bureau working to improve standards in national and international philanthropy. Some 600 agencies are investigated annually. The Bureau reports state whether or not 11 standards which it considers essential are conformed to. Members eligible for confidential reports include individuals, corporations, chambers of commerce, some 650 local community chests and councils and 40 foundations. The *Giver's Guide to National Philanthropy* is published annually, and members receive periodic newsletters. President, Paul L. Feiss; Secretary, Craig R. Smith; Treasurer, Valentine E. Macy, Jr. Headquarters: 205 East 42nd St., New York 17, N.Y.

National Institute of Arts and Letters, founded in 1898 for furtherance of the interest of literature and the fine arts. Membership: 250. President, Douglas Moore; Secretary, William Rose Benét; Secretary, Philip James. Headquarters: 633 West 155th St., New York 32, N.Y. At the

7th Public Ceremonial in May, 1948, given jointly with the American Academy of Arts and Letters, 15 \$1,000 Arts and Letters grants were awarded.

National Institute of Social Sciences, founded in 1912 to promote research in the social sciences. Membership: Limited to 600, not including honorary members. President, Clarence G. Michalis; Treasurer, Lewis Latham Clarke; Secretary, Rosina Hahn. Headquarters: 271 Madison Ave., New York 16, N.Y.

National Jewish Welfare Board, founded in 1913, is the national association of Jewish Community Centers and YM-YWHA's in the United States and Canada, and the recognized agency for serving the religious, welfare, and morale needs of Jewish men and women in the armed forces and in veterans' hospitals. Membership: 321 Jewish Centers with about 500,000 members. President, Frank L. Weil; Executive Director, S. D. Gershovitz; Treasurer, Joseph H. Cohen; General Secretary of National Council, Louis Kraft. Headquarters: 145 East 32nd St., New York 16, N.Y. The next national meeting will be held in 1950 in Cincinnati, Ohio.

National Kindergarten Association, founded in 1909 to arouse interest in kindergarten education and to help secure it for the children of the whole nation. President, Major Bradley Martin; Treasurer, Eversley Childs, Jr.; Secretary, Mrs. Roger C. Aldrich; Executive Secretary, Bessie Locke; Editor, Florence Jane Owens. Headquarters, 8 West 40th St., New York 18, N.Y. The annual meeting is held in January.

National Lawyers Guild, founded in 1937, is a bar association seeking to make the law a living and flexible instrument of human progress and justice. Membership: Approximately 4,000. President, Robert W. Kenny; Executive Secretary, Robert J. Silberstein; Treasurer, Nathan B. Kogan. Headquarters: 902 20th St., NW, Washington 6, D.C.

National League of American Pen Women, founded in 1897, has branches in every state of the Union. Membership: Over 4,000. National President, Dr. Margaret H. Sobree. Headquarters: 814 National Press Building, Washington, D.C. The League makes awards in all branches of creative art. National board meetings are held in Washington, D.C., each month.

National Legion of Decency, The, formed in 1934 by the Roman Catholic Bishops of the United States to evaluate and classify entertainment motion pictures exclusively, according to traditional standards of morality and decency. It functions under the jurisdiction of the Episcopal Committee on Motion Pictures of which the Most Rev. William A. Scully, D.D., is Chairman. The Motion Picture Department of the International Federation of Catholic Alumnae is the official reviewing group of the Legion. Executive Secretary, the Rev. Patrick J. Masterson; Assistant Executive Secretary, Rev. Thomas F. Little. Headquarters: 35 East 51 St., New York 22, N.Y.

National Lutheran Council, founded in 1918 to witness for the Lutheran Church on matters which require an expression of common faith, ideals, and program; to be the National Committee for the Lutheran World Federation in the United States. Membership: 8 Lutheran church bodies. President, Dr. W. G. Sodi; Secretary, Dr. A. G. Weng; Treasurer, S. F. Telleen. Headquarters: 231 Madison Ave., New York 16, N.Y. The 1948 Lutheran World Action Appeal reached a total of \$4,097,992. The annual meeting of the Council will be held Feb. 1-4, 1949.

National Peace Conference, instituted in 1933 and reorganized in 1935, serves (1) as a council board on which members exchange their views on American foreign policy; (2) as a clearing house for the views of its affiliated organizations; and (3) as a publisher of objective, non-partisan information on world events. Membership: 33 organizations. President, Richard R. Wood; Treasurer, Eunice H. Carter; Secretary, Bertha W. Louis. Headquarters: 8 West 40th St., New York 18, N.Y. The Conference publishes 10 Bulletins a year.

National Recreation Association, founded in 1906 to the end "that every child in America shall have a chance to play, that everybody in America, young or old, shall have an opportunity to find the best and most satisfying use of leisure time." Membership: 18,000. President, Howard Braucher; Chairman of the Board, Robert Garrett; Secretary, Susan M. Lee; Treasurer, Adrian M. Massie. Headquarters: 315 Fourth Ave., New York 10, N.Y.

Natural Resources Council of America, founded in 1946 to advance sound natural resource management. The Council does not determine policy, but acts as a service agency to its member organizations by keeping them informed on actions of Congress, and making available scientific data and other information to aid them in intelligent understanding of conservation problems. Membership: 27 national organizations and scientific societies. Chairman, Howard Zahmiser; Treasurer, Harry E. Radcliffe; Secretary, C. R. Gutermuth. Headquarters: 822 Investment Building, Washington 5, D.C. The annual meeting is held in October.

National Safety Council, founded in 1913, serves as a national and international clearing house for information about causes of accidents and ways to prevent them. Membership: 7,692. Chairman, Board of Directors, James Tamm; President and Executive Vice-President, Ned H. Dearborn; General Secretary, R. L. Forney. Headquarters: 20

North Wacker Drive, Chicago 6, Ill. In 1948, Wilmington, Del., and Oklahoma City, Okla., shared the grand award among cities, and Connecticut among states in the National Traffic Safety Council. Annual Safety Congress will be held in Chicago Oct. 21-25, 1949.

National Sculpture Society, founded in 1893, to foster the development and appreciation of sculpture in America, and to support any movement that furthers this cause. Membership: Approximately 300. President, Sidney Waugh; Treasurer, Clyde C. Trees; Secretary, Carl L. Schmitz; Educational Director, John J. Cunningham. Headquarters: 1083 Fifth Ave., New York 28, N.Y. Lindsey Morris Memorial Prize to Edmondo Quattrocchi, Mrs. Louis Bennett Prize to Jean de Marco. Annual Meeting of the Society on 2nd Tuesday in January.

National Society, Daughters of the American Revolution, founded in 1890 for historical, educational, and patriotic purposes. The DAR sponsors a diversified range of projects, including advancement of American music, Americanism, American Indians; the endowment of schools; instruction in the correct use of the flag; the collection of genealogical records; a strong national defense program; restoration of historic spots; an expansive conservation program; a program in occupational therapy at Ellis and Angel Islands. The DAR Manual for Citizenship is distributed to foreign-born in 18 languages; citizenship work is promoted by DAR Good Citizenship Pilgrimage. Membership: 161,813 in 2,616 chapters. President General, Mrs. Roscoe C. O'Byrne; Recording Secretary General, Mrs. Edwin Stanton Lammers; Corresponding Secretary General, Mrs. John T. Gardner; Organizing Secretary General, Laura Clark Cook; Treasurer General, Mrs. Rex Hays Rhoades. Headquarters: 1720 D St., NW, Washington 6, D.C. The 1949 Continental Congress will be held in Constitution Hall, Washington, D.C. April 18-22.

National Society for the Prevention of Blindness, Inc., founded in 1915, incorporated in 1918. A voluntary organization concerned with diseases and other conditions leading to blindness, impaired vision, and eyestrain. Endeavors to reduce or, where possible, to eliminate such causes through demonstration projects, guidance to professional and technical groups, as well as educational activities and materials. Members and donors, 42,000. President, Mason H. Bigelow; Treasurer, Eugene M. Gelles; Secretary, Regina E. Schneider; Executive Director, Franklin M. Foote, M.D. Headquarters: 1790 Broadway, New York 19, N.Y. Annual conference to be held at Hotel New Yorker, New York, N.Y., Mar. 16-18, 1949.

National Tuberculosis Association, founded in 1904, for the study of tuberculosis in all its forms, the dissemination of knowledge about the cause of tuberculosis, and the promotion of international relations in connection with its study and control. Membership: 3,801. President: Herbert L. Mantz, M.D.; Secretary, H. Stuart Willis, M.D.; Treasurer, Collier Platt; Managing Director, J. E. Perkins, M.D. The 45th Annual Meeting will be held in Detroit, Mich., the week of May 2, 1949.

National Urban League, founded in 1910 to improve race relations, and particularly living and working conditions among Negroes in cities. Urban League locals are in 56 cities covering 28 States and the District of Columbia. Membership: 55,000. President, Lloyd K. Garrison; Secretary, Sadie T. M. Alexander; Treasurer, Benjamin J. Buttenwieser; General Secretary, Eugene K. Jones; Executive Secretary, Lester B. Granger. Headquarters: 1133 Broadway, New York 10, N.Y. Publication: *Opportunity*. The 1949 annual meeting is scheduled for February 11, in New York, N.Y.

National Vocational Guidance Association, Inc., founded in 1913 to foster vocational guidance and occupational adjustment and to establish and improve standards of professional service in these fields. Membership: 5,113. President, Warren K. Layton; Treasurer, Edward Laudy. Headquarters: 82 Beaver St., New York 5, N.Y.

National Woman's Christian Temperance Union, founded in 1874, is an educational organization working through the Youth Temperance Council for young people, the Loyal Temperance Legion for children, and 21 educational departments. Membership: Approximately 400,000. President, Mrs. D. Leigh Colvin; Corresponding Secretary, Elizabeth A. Smart; Treasurer, Violet T. Black; Recording Secretary, Mrs. Glenn G. Hays. Headquarters: 1730 Chicago Ave., Evanston, Ill. In 1948, 66,312 new members were received. Pennsylvania, for the fifth consecutive year, led the nation in total membership. The 1949 national meeting will be held in Philadelphia, Pa.

Near East Foundation, founded in 1930 "to cooperate with governments, municipalities (incorporated or otherwise), societies and individuals in the care and instruction of children, and in the promotion, maintenance and support of community activities of a social, economic, educational and philanthropic character in the Near East and in countries adjacent thereto." President, Cleveland E. Dodge; Treasurer, Harold Hatch; Executive Secretary, Edward C. Miller. Headquarters: 54 East 64th St., New York 21, N.Y.

New Education Fellowship, founded in 1915 to bring together progressive-minded teachers, parents, social workers, and others all over the world who are interested in education. It is made up at present of national sections in

31 countries. It publishes magazines, pamphlets, and books, and arranges conferences. The American Education Fellowship (q.v.) is the American section. Membership: About 17,000. President, Carleton W. Washburne; Chairman, Laurin Ziliacus; Secretary, Clare Soper. Headquarters: 1 Park Crescent, London, W.1, England.

New York Academy of Medicine, The, founded in 1847 for the advancement of the science and art of medicine, the maintenance of a public medical library and the promotion of public health and medical education. Membership: 2,800. President, George Bachr; Treasurer, Shepard Krech; Secretary, Robert E. Pound. Headquarters: 2 East 103rd St., New York 29, N.Y. In 1948 the Annual Graduate Fortnight with exhibit was held from October 4-15 on Advances in Therapy. The annual program includes lectures to the laity, Friday afternoon lectures, the Salmon Memorial Lectures, and medical and scientific meetings.

Nutrition Foundation, Inc., The, founded in 1941, (1) to do research on basic problems in the science of nutrition; and (2) to support educational measures to make the science of nutrition effective in the lives of present and future generations. Membership: 54. Chairman, Board of Trustees, Karl T. Compton; President, George A. Sloan; Scientific Director, Charles Glen King; Treasurer, Morris Sayre; Executive Secretary, Ole Salthe. Headquarters: Chrysler Building, New York 17, N.Y. In 1948 the Foundation made 50 grants-in-aid to 31 universities totaling \$307,517. In 1949 the spring meeting will be held in the Middle West and the fall and annual meeting in New York, N.Y.

Overseas Press Club of America, founded in 1939, aims to bring together men and women whose past or present activities in the service of the American press abroad have given them common professional and social interests; to provide facilities for the expression of these interests; and to encourage the highest standards of independence, democracy, and professional skill in the American foreign press service. Membership: 700. President, W. W. Chaplin; Secretary, Hester E. Ivensell; Treasurer, Ralph Jules Frantz. Headquarters: Times Building, Suite 411, 1475 Broadway, New York 18, N.Y.

Pan-American Foundation, founded in 1938 to promote and maintain, through nongovernmental means and agencies, the principles and policies of Pan Americanism. The foundation cooperates with inter-American organizations, and publishes Pan American booklets, pamphlets, and bibliographies. Director, A. Curtis Wilgus; Secretary, William A. Reid. Headquarters: 1217 13th St., NW, Washington 5, D.C.

P.E.N. Club—American Center, founded in 1923 to promote greater understanding between writers. There are 50 centers throughout the world. The international secretariat is in London. Membership: American Center—about 300. President, Henry Seidel Canby; Secretary, Manual Komroff; Treasurer, Kenneth McCormick. Headquarters: 123 East 94th St., New York 28, N.Y.

Photographic Society of America, Inc., organized in 1934 to succeed the Associated Camera Clubs of America, founded in 1919. It is an association of photographers, amateur and professional, and others interested in photography and photographers, which serves as a clearing house for ideas, methods, and achievements in photography. Membership: 9,500. President, C. B. Phelps, Jr.; Secretary, Mrs. A. F. Dewey; Treasurer, Charles Heller. Headquarters: 1815 Spruce St., Philadelphia 3, Pa.

Planned Parenthood Federation of America, Inc., founded in 1921 as the American Birth Control League to strengthen maternal and infant health through providing methods of and spreading knowledge on conception control. In 1941 name changed to express program expansion in aid to fertility, education for marriage, and research in human reproduction. Membership: 163 member organizations. Chairman, Charles E. Scribner; Secretary, Mrs. Henry C. Taylor; Chairman, Medical Executive Committee, Dr. William T. Kennedy; National Director, D. Kenneth Rose. Headquarters: 501 Madison Ave., New York 22, N.Y. Annual Lasker Foundation Awards to John Rock, M.D., and Richard N. Pierson, M.D. Publications: *Human Fertility*; *News Exchange*. The Annual Meeting will be held in October, 1949, in New York.

Poetry Society of America, The, founded in 1910 to secure fuller recognition for poetry as one of the important forces for a high civilization and especially to foster American poetry and assist poets. Membership: Approximately 500. President 1948, Carl Carmer, President 1949, Robert Hilkey; Secretary, Harold Vinal; Treasurer, Frank E. Gerry. Headquarters: Correspondence should be addressed to Secretary, 887 Lexington Ave., New York, N.Y. Meetings are held at 122 East 58th St., New York 22, N.Y. Monthly awards of \$10 and \$5; yearly awards of \$100 and \$50.

Reserve Officers Association of the United States, founded in 1922 to support and assist in the development of a military policy for the United States that will provide adequate national security. Membership: 100,000. President, Clarence E. Barnes; Vice Presidents, Henry G. Nulton, John P. Bracken, Morris J. Brummer; Treasurer, Carroll Morgan; Executive Director, E. A. Evans. Headquarters: 2517 Connecticut Ave., NW, Washington 8, D.C. The 1949 national convention will be held in Grand Rapids, Mich., in July.

Rockefeller Institute for Medical Research, The, founded in 1901 by John D. Rockefeller to "assist and encourage investigations in the sciences and arts of hygiene, medicine and surgery, and allied subjects. . . ." It is organized with three departments: the Department of the Laboratories, the Hospital, and Animal and Plant Pathology. During 1948, research was conducted by a full-time staff of 88, and by 84 visiting investigators. Publications: *The Journal of Experimental Medicine*; *The Journal of General Physiology*; and *the Studies from the Rockefeller Institute for Medical Research*. President, John D. Rockefeller, Jr.; Director, Herbert S. Gasser; Business Manager, Edric B. Smith. Headquarters: 66th St. and York Ave., New York 21, N.Y.

Rosicrucian Order, AMORC (Ancient, Mystical Order Rosae Crucis), had its traditional founding in Egypt; first came to America in 1894, was reactivated in 1909. The organization is a nonprofit, nonsectarian, Fraternal Order devoted to the preservation and study of the higher principles of life as found expressed in man and nature and works actively for peace, tolerance, and enlightenment as the means to banish superstition and ignorance. Publications: *Rosicrucian Digest*; *The Rosicrucian Forum*; *The Rosicrucian Library*. Imperator and Chief Executive, Ralph M. Lewis; Supreme Secretary, Cecil A. Poole. International headquarters: Rosicrucian Park, San Jose, Calif.

Rotary International is the world-wide organization of Rotary clubs, the first of which was formed in Chicago, Ill., in 1905. Rotary is a world fellowship of business and professional executives who meet together to further the "Ideal of Service," which is thought for and help to others in business and community life. Membership: 6,600 Rotary Clubs in 80 countries and geographical regions, with a membership in excess of 320,000. President, Angus S. Mitchell (Australia); Secretary, Philip Lovejoy (U.S.A.); Treasurer, Richard E. Vernon (U.S.A.). International headquarters: 35 East Wacker Drive, Chicago 1, Ill. Offices for serving Rotary Clubs are also located in London, England and Zurich, Switzerland. Publication: *The Rotarian* (official organ of Rotary International). The 1949 Rotary International Convention will be held in New York, N.Y., June 12-16.

Royal Institution of Great Britain, founded in 1799 for the promotion of science and the diffusion and extension of useful knowledge. Membership: 1,100. President, Lord Brabazon; Secretary, A. O. Rankine; Treasurer, R. E. Slade; Resident Professor and Director of the Davy Faraday Research Laboratory, E. K. Rideal; General Secretary, Thomas Martin. Headquarters: 21 Albemarle St., London, W.1, England.

Royal Society of Arts, founded in 1754 for the encouragement of arts, manufactures, and commerce. Membership: approximately 5,000. President, H.R.H. Princess Elizabeth; Secretary, K. W. Luckhurst. Headquarters: John Adam St., Adelphi, London, W.C.2, England. Albert Gold Medal to Sir William Reid Dick.

Royal Society of Canada, The, founded in 1881 by the then Governor-General (1) to encourage studies and investigations in literature and science; (2) to publish transactions containing records of the work performed, original papers and memoirs of merit; (3) to offer prizes for valuable papers on subjects related to Canada; (4) to aid researches already begun and carried so far as to render their ultimate value probable; and (5) to assist in the collection of specimens with a view to the formation of a Canadian Museum of archives, ethnology, archaeology and natural history. Membership: 398. President, Gustave Lanctot; Honorary Secretaries, F. J. Alcock and Séraphin Marion; Honorary Treasurer, L. E. Howlett; Honorary Editor, G. W. Brown. Headquarters: National Research Building, Ottawa, Ontario. The 1949 annual meeting will be held at Dalhousie University, Halifax, N.S., June 5-8.

Royal Society of Medicine, founded in 1805 (Royal Charter 1834) "for the cultivation and promotion of physic and surgery and for the branches of science connected with them." Membership: 9,000. President, Sir Henry Dale; Secretary, Geoffrey R. Edwards. Headquarters: 1 Wimpole St., London, W.1, England. A total of 200 medical meetings divided amongst the 24 Sections are held during the year.

Royal Society of South Africa, founded in 1877 as The South African Philosophical Society and granted a Royal Charter in 1908. Membership: limited to 100 Fellows, 150 ordinary members; bodies in exchange relations for publications number 240. Publication: *Transactions*. Contributions cover pure and natural sciences, humanistic studies, etc. Monthly meetings held at Cape Town. President 1948, Professor R. S. Adamson; President 1949, Dr. J. Jackson; Secretary, A. J. H. Goodwin. Headquarters: c/o University of Cape Town, Rondebosch, South Africa.

Royal Society, The, founded in 1660 for the advancement of natural knowledge. Membership: 546. President, Sir Robert Robinson; Treasurer and Vice-President, Sir Thomas Merton; Secretary, Sir Alfred Egerton; Secretary and Vice-President, Sir Edward Salisbury; Foreign Secretary, E. D. Adrian. Headquarters: Burlington House, Piccadilly, London, W.1, England.

Save the Children Federation, Inc., founded in 1932 to study the needs of children in the United States and in

Wisc. The Association has a seat on the U.S. Commission for UNESCO, is an associate member of the Department of Higher Education of the National Education Association, and is a sponsoring organization of World Student Service Fund. Publication: *NSA News*.

United World Federalists, Inc., founded in 1947 to bring about an American public opinion favorable to making the major objective of United States foreign policy the creation of a federal world government of limited powers, adequate to insure peace. Membership: 40,000. President, Cord Meyer, Jr.; Secretary, Lawrence Fuchs; Treasurer, Duncan Spencer. Headquarters: 7 East 12th St., New York, N.Y.

Veterans of Foreign Wars of the United States, founded in 1899 "to preserve and strengthen comradeship among its members; to assist worthy comrades; to perpetuate the memory and history of our dead and to provide for the widows and orphans; to maintain true allegiance to the government of the United States of America and fidelity to its constitution and laws; to foster true patriotism; to maintain and extend the institution of American freedom; and to preserve and defend the United States from all her enemies, whomsoever." Membership is open to American citizens who have been awarded a campaign medal or badge for service in the Armed Forces on foreign soil or in hostile waters. Membership: 1,500,000. Commander-in-Chief, Lyall T. Beggs; Adjutant General, H. N. Hensley; Quartermaster General, R. B. Handy, Jr.; Judge Advocate General, James Hardin; Surgeon General, Dr. Oliver C. Pratz; National Chaplain, Max J. Matz. Headquarters: Broadway at 34th St., Kansas City 2, Mo. The 50th National Convention will be held in Miami, Fla., Aug. 28-Sept. 2, 1949.

Wildlife Management Institute, founded in 1946, is dedicated to the conservation, restoration and management of wildlife resources and the application of sound wildlife practices and techniques on both public and private lands. Membership: 746. President, Ira N. Gabrielson; Vice President, C. R. Gutermuth; Treasurer, C. Stewart Comeaux; Secretary, Ethel M. Quee. Headquarters: 822 Investment Building, Washington 5, D.C. The institute issues scholarships, fellowships, and research grants. It furnishes technical counsel to cooperating organizations, disseminates informative literature, and publishes outstanding manuscripts on natural science subjects.

Wistar Institute of Anatomy & Biology, The, founded in 1892 for the preservation and free exhibition of the museum originally known as The Wistar and Horner Museum; publication of original scientific material; research in biological and related fields; etc. President, William H. DuBarry; Secretary, William G. Rhoads; Executive Director, Edmond J. Farris. Scientific staff: Members, Associate Members, and Fellows. Headquarters: 36 St. and Woodland Ave., Philadelphia 4, Pa. Publications: *Journal of Morphology*, *American Journal of Anatomy*, *Anatomical Record*, *Journal of Experimental Zoology*, *American Journal of Physical Anthropology*, *Journal of Cellular and Comparative Physiology*, *Journal of Nutrition*, *Journal of Comparative Neurology*.

Women's American ORT (Organization for Rehabilitation through Training), founded in 1927 for the training and retraining of impoverished people in technical trades and agriculture so that they may become useful wanted citizens. More than 50 trades are taught in ORT schools in 22 countries throughout the world (principally in Europe). Membership: 20,000. President, Mrs. Ludwig Kaphan; Treasurer, Mrs. Alexander Konoff; Corresponding Secretary, Mrs. Seymour Nathan; Executive Secretary, Mrs. Lisbeth H. Goodstein. Headquarters: 212 Fifth Ave., New York 10, N.Y.

Woodrow Wilson Foundation, founded in 1922 in recognition of the national and international services of Woodrow Wilson. The Foundation has developed a program to further the Wilsonian concept of international organization and world cooperation. Publications: *United Nations News*, and reprints. President, Thomas K. McIntire; Secretary, Allen W. Dulles; Executive Director, Julie d'Estournelles; Librarian, Harriet Van Wyck. Headquarters: 45 East 65th St., New York 21, N.Y. The Foundation, in cooperation with the American Political Science Association, makes an annual award for the outstanding publication of the year dealing with government and democracy.

Woods Hole Oceanographic Institution, The, founded in 1880, is a privately endowed nonprofit organization at Woods Hole, Mass., for the study of oceans in all their aspects, including problems in hydrography, biology, chemistry, geology, and meteorology. President, Henry B. Bigelow; Director, Columbus O'D. Iselin. Publications: *Papers in Physical Oceanography and Meteorology*, and *Collected Reprints*.

World Association of Girl Guides and Scouts, founded in 1928 to encourage understanding and friendship among girls of all nations and promote the fundamental aims of Girl Scouting and Girl Guiding, as expressed in the Promise and Laws, throughout the world. Membership: 3 million. Chairman, World Committee, Mrs. E. Swift Newton (U.S.A.). World Bureau: 9 Palace St., London, S.W.1, England. The 12th biennial conference met at Coopers-ton, N.Y., August, 1948.

World Council of Churches, founded provisionally 1938,

officially inaugurated 1948 in Amsterdam. Unites churches of the world for cooperative study, research, youth work, evangelism and inter-church aid. Membership: 145 churches in 44 countries. Presidium: Marc Boegner, the Archbishop of Canterbury, T. C. Chao, Archbishop S. Germanos, Bishop G. Bromley Oxnam, the Archbishop of Upsala. General Secretary, W. A. Visser 't Hooft. Offices: 17 Route de Malagnou, Geneva, Switzerland; 7 Kensington Church Court, London, England; 297 Fourth Ave., New York 10, N.Y.

World's Young Women's Christian Association, founded in 1894 to unite and serve national Young Women's Christian Associations. Membership: Approximately 1,500,000 women and girls of every race; 5,000,000 more share in its activities. President, Lilace Reid Barnes (U.S.A.); Treasurer, Catherine Picot (Switzerland). Headquarters: 87 Quai Wilson, Geneva, Switzerland. The association has been accepted in consultative status with the United Nations. The executive committee met in Geneva, Switzerland, in May, 1948.

Young Women's Christian Associations of the United States of America, founded in 1858 to promote the physical, social, intellectual, and spiritual interests of young women. Membership: A constituency of 3,000,000. President, Mrs. Arthur Forrest Anderson; Secretary, Margaret E. Burton; Treasurer, Mrs. Roland P. Beattie; General Secretary, Mrs. Harrison S. Elliott. Headquarters, 600 Lexington Ave., New York 22, N.Y. In 1948 the first YWCA International Study Conference on Women and World Reconstruction was held at Teachers College, Columbia University, New York, N.Y., with 45 women from 27 nations present.

Zonta International, founded in 1919, is a service club of business executive and professional women working for the advancement of women's dignity, goodwill, and peace. Membership: 7,000; 200 clubs. International President, Elizabeth A. Judge; International Treasurer, Ruth H. Gates; Executive Secretary, Harriet C. Richards. Headquarters: 59 East Van Buren St., Chicago 5, Ill. Theme for 1948-49 "Community Service for World Service." The 1949 international convention will be held at Quebec, Canada, in June.

SOIL CONSERVATION SERVICE. A scientific and technical agency of the U.S. Department of Agriculture, established in 1935. The principal responsibility of the Service is to assist farmers and ranchers in soil conservation districts, through its planning technicians and other soil and water conservation specialists. As of Nov. 1, 1948, there were 2,078 of these farmer organized and farmer managed soil-conservation districts including 1,132,321,880 acres and 4,500,260 farms in all 48 states, Puerto Rico, the Virgin Islands, Alaska, and Hawaii.

Approximately 626,000 complete soil-conservation plans, covering about 222 million acres of farm and ranch land, had been developed by technicians of the Service, working with farmers and ranchers, by July 1, 1948. More than 157 million acres of this land had been treated with soil-saving and water-management practices according to the needs and capabilities of the land. Detailed conservation surveys, which are made by the Service to provide data and information required for farm planning, had been completed on 280 million acres.

Other responsibilities assigned to the Service include special treatment of land for flood control, to supplement major downstream flood-control works such as reservoirs and levees; water conservation and utilization for development of irrigation lands of the West; and management and development of government-owned submarginal lands in 32 states. The Service carries on flood-control operations in 11 major watersheds, and is making investigations and surveys in many other watersheds to collect data for the planning of flood-control projects.

Research studies to perfect soil-conservation practices and to develop measures for applying those needed in different regions, are conducted by the Service at experiment stations in all parts of the country, chiefly in cooperation with the State and territorial Experiment Stations. Chief: Hugh H. Bennett.

SOUTH AFRICA, Union of. A self-governing dominion of the British Commonwealth of Nations, com-

posed of four provinces—Cape of Good Hope, Natal, Orange Free State, and Transvaal. South Africa retains control of South-West Africa, a former German territory mandated to the Union in 1920 by the League of Nations. Seat of the government, Pretoria. Seat of the Legislature, Cape Town.

Area and Population. The area of the Union is 472,494 square miles. That of South-West Africa is 317,725 square miles. Population at the 1946 census was 11,259,000, of whom 2,335,000 were Europeans, 7,738,000 Bantu, 283,000 Asiatic, and 905,000 of other races. Chief cities in 1946 (European population only): Johannesburg, 324,304; Cape Town, 214,201; Durban, 124,792; Pretoria, 124,542.

Education and Religion. State-aided and state-conducted schools for Europeans are adequate in number, but schools for the native population are relatively fewer. The Union has five universities (1945 enrollment, 14,222) and a number of technical, trade, and commercial schools; and schools for the handicapped.

The religious affiliations of the European population at the time of the 1936 census were: Dutch churches, 54 percent; Anglican, 17 percent; Methodist, 7 percent; with the remainder largely Roman Catholic, Jewish, and Presbyterian.

Production. Gold mining, which occupies four-fifths of the country's employed population and furnishes the chief export, is the country's most important business with production in 1948 at £100 million. South Africa stands first in the production of diamonds as well as gold, but in its domestic economy diamonds are outranked by coal in value of output. Lime and limestone, copper, asbestos, and platinum are other minerals produced in quantity.

The raising of sheep and goats occupies a considerable section of the population. In agriculture proper, fruits, both citrus and other, and tobacco are increasingly emphasized. In 1947-48 tobacco production was 163,722,000 lb. and wool 205,170,000 lb. Metals and engineering is the largest industry and food processing the second, but textiles and clothing are also important and a tendency towards diversification is apparent.

Foreign Trade. Exports (excluding gold) in 1947 were S.A. £96 million and imports S.A. £276 million. Exports are dominated by gold but imports are diversified and include apparel and other consumer goods. The adverse balance of trade with the United States in 1947 was S.A. £76 million.

Transportation. The government operated 13,255 miles of railways in 1945 and road motor services over 18,324 route miles. In that year 7,406,564 tons net of shipping entered the four chief ports of Durban, Cape Town, Port Elizabeth, and East London. The South African Railways and Harbors Board operates internal airways connected with all African airlines.

Finance. The budget estimates for 1948-49 provided for revenue of £137,500,000; expenditure of £130,597,000; and a resulting surplus of £6,903,000. Net debt (Mar. 31, 1948): £592,174,000, of which £583,974,000 was internal. The Union's gold reserves declined by Sept. 30, 1948, to £66,100,855 or 30.9 percent (legal minimum: 30 percent) and imports were therefore restricted.

Government. Executive power is vested in the Governor General, appointed by the Crown upon recommendation of the South African Government, and in the Executive Council (Cabinet) which is responsible to Parliament. Parliament consists of a Senate and a House of Assembly. The Senate has

a basic membership of 40, 8 elected for each of the four provinces and 8 appointed by the Governor General. Each Senator must be a British subject of European descent. The House of Assembly has a basic membership of 150, elected from the provinces roughly in proportion to the white population.

The Representation of Natives Act, 1936, provided for direct representation of natives in the Senate by four additional members, for three additional members in the House of Assembly, and for a Natives Representation Council. The Asiatic Land Tenure and Indian Representation Act of 1946 gave the Indians of Natal and Transvaal joint representation by two senators, one elected by the Indians and one appointed by the Government, and entitled them to a representation of three in the House of Assembly.

Governor General, Major Gideon B. van Zyl, Prime Minister and Minister for External Affairs, D. F. Malan (Nationalist), succeeding General Jan Smuts (United Party), as a result of the election of May 26, 1948. Election results: Government parties 79 (70 Nationalist, 9 Afrikaners); Opposition 74 (United Party 65, Labor 6, Native 3).

Events, 1948. The session of Parliament which opened on January 16 was scarcely more than an overture for the general election that was to take place in May. General Smuts, the Prime Minister, made several Cabinet changes just before the session opened. The Speech from the Throne included a reference to the bill for controlling the exploitation of uranium deposits discovered on the Rand and, it was rumored, elsewhere in South Africa. This bill was passed after the election as the Atomic Energy Bill. On March 27 the Governor General approved the bill passed by Parliament enabling the Union Government to apply the General Agreement on Tariffs and Trade concluded at Geneva on Oct. 30, 1947.

Defeat of Smuts. The victory of the Nationalist Party, with the aid of the Afrikaner Party, in the election of May 26, appeared to come as a general surprise. Actually Prime Minister Smuts and his United Party, together with the Labor Party, won a majority of the votes cast (551,590 to 443,719), but rural seats have a preference up to 30 percent in the electoral quota. There appeared to have been a shift to the Nationalists in rural areas.

General Smuts lost his seat in the Transvaal constituency of Standerton, and on May 28 he handed the resignation of his Cabinet to Governor General van Zyl. Van Zyl immediately asked Dr. Daniel François Malan, Nationalist leader, to form a new government. Smuts at first insisted on leaving public life, but on June 1 he accepted a seat offered by C. W. Clark, who won in Pretoria East. The acceptance gave Smuts the position of Leader of the Opposition, a desirability if the United Party was to be kept a close-knit organization after its defeat. Smuts reached his 78th birthday on May 24, 1948.

The Malan Government. Malan announced his Cabinet on June 3. The Prime Minister kept for himself the portfolio for External Affairs. Malan had been Minister of the Interior in the Hertzog administrations. N. C. Havenga was designated Minister of Finance, a post he had held from 1924 to 1938. Havenga, the leader of the Afrikaner Party, was the only member of that party appointed to a Cabinet post. The appointments on the whole were more moderate than the composition of the new House of Assembly suggested.

Several of the Nationalists who gained seats were interned as suspects in World War II or were mem-

bers of totalitarian organizations, but Dr. Malan himself was exonerated in 1946 of significant collaboration with the Nazis (see *YEAR BOOK* for 1946, p. 613). In the election campaign he acknowledged his membership in the *Broederbund*, a secret society seeking Afrikaner domination over the British. At the same time he maintained a feud with the *Ossewabrandwag*, a Fascist-minded organization imitating the Nazi ceremonial, and during the campaign a mutual boycott was carried on.

The Nationalists fought the election chiefly on the issue of outright separation (*apartheid*) of Europeans and natives; topographically, politically, and economically; as well as socially. Nationalist fear of the end of the white race and of white civilization in South Africa appeared to be extreme. Although they were republican, they gave repeated assurances during the campaign that there would be no immediate attempt to break with the Commonwealth.

Native Rights. In pursuance of the racial policy announced in the election campaign, Malan announced on September 1 his belief that Parliament could amend the Representation of Natives Act by a simple majority. The reference was to the South Africa Act of 1909, which provided that the existing franchise of non-Europeans in Cape Province could not be changed except by a two-thirds majority of both houses of Parliament sitting together. This procedure was followed in the passage of the Representation of Natives Act, 1936, which introduced a system of communal representation for all natives.

In November Prime Minister Malan told the Transvaal National Party Congress that the Cabinet had approved a system of national registration which would assist the country in its policy of *apartheid*, since the identity cards would show the race of the holders. A person would be classed as non-European if at least one grandparent were black. Dissension within the Government was indicated when Havenga, leader of the Afrikaner Party, told the party congress on December 1 that he intended to stand by the South Africa Act and the Constitution. Subsequently the Afrikaner Party withdrew from the provincial elections to be held in March, 1949.

The Nationalist plan of abolishing native representation would serve the double purpose of *apartheid* and increasing the slender Nationalist majority in Parliament. Three members of the House of Assembly, three Senators, and the Natives Representation Council would disappear.

An allied issue was the treatment of Indians in South Africa. In July, 1948, India asked that the matter be taken up by the General Assembly of the United Nations at its next meeting, as had been done in 1946 and 1947, when results were inconclusive. The feud between the two countries was continued in the UN Trusteeship Committee in November, when the Chairman reprimanded South Africa's representative Eric Louw for an over-personalized attack on India's Mrs. Pandit. Mr. Louw had suggested that Mrs. Pandit look to her own country for the kind of inhuman excesses she attributed to South Africa.

South-West Africa. Once again in 1948 South Africa refused to place under UN trusteeship the former mandated territory of South-West Africa. On November 16, speaking in the Trusteeship Committee meeting in Paris, Louw called the question a domestic one and asked whether it was surprising that decent South Africans from all parties were questioning South Africa's membership in an organization [the United Nations] "where the Union

and its Government are annually abused and vilified." The Indian delegation had previously offered a resolution proposing that a UN commission be sent to South-West Africa. On November 26 the General Assembly, by a vote of 43 to 1, criticized South Africa for its refusal to place South-West Africa under Trusteeship.

Dwindling Gold Reserves. South Africa's shortage of foreign exchange, apparent as early as April, was attributed to the unaltered price of gold since September, 1939, by Dr. de Kock, Governor of the South African Reserve Bank, in his annual address on July 28. As the gold supply continued to fall the reserve ratio was reduced from 30 to 25 percent, and on November 4 a plan of reducing imports by rationing dollars was announced.

When the 25 percent ratio was threatened South Africa bought \$10 million of United States currency from the International Monetary Fund. In December the restriction of the very large purchases from the United States had not yet been felt, and de Kock urged the need of American credits.

—ALZADA COMSTOCK

SOUTH AMERICA. A continent comprising 10 republics (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela) and three colonies (British Guiana, French Guiana, and Surinam). Total area: 6,937,445 square miles (17,968,000 square kilometers). Estimated population: 88,680,000 (Jan. 1, 1940).

SOUTH CAROLINA. A south Atlantic State. Area: 30,989 sq. mi. Population: (July 1, 1948) 1,991,000, compared with (1940 census) 1,899,804. Chief cities: Columbia (capital), 62,396 inhabitants in 1940; Charleston, 71,275. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$104,481,000; total expenditure, \$106,360,000.

Legislation. The annual session of the General Assembly convened January 13 and adjourned April 15. Appropriations for the ensuing year totaled about \$100 million, a record for one year. Included were increased amounts for teachers' salaries, health and welfare purposes, and highways. Appropriations for farm-to-market roads were unprecedentedly high. Cities in the State were granted about \$2 million as their share of the State excise tax on hard liquors.

Other major developments included the creation of interim committees to study revision of the 1895 Constitution; reorganization of the State departments and agencies; and revision of legislative processes and procedures. The interstate parole and probation compact was adopted. By popular vote, in November, South Carolina joined the other States in legalizing divorce, and provided specific grounds on which divorces may be obtained.

Elections. Thurmond won his home State's 8 electoral votes with a popular majority over Truman, Dewey, and other candidates of more than 50,000. Incumbent Democratic Senator Burnet R. Maybank was reelected. Democrats retained the 6 House seats. There were no Statewide contests for State office.

Officers, 1948. Governor, J. Strom Thurmond; Lieut. Governor, George Bell Timmerman; Secretary of State, W. P. Blackwell; Attorney General, John M. Daniel; State Treasurer, Jeff B. Bates; Comptroller General, E. C. Rhodes; State Auditor, J. M. Smith.

SOUTH DAKOTA. A west north central State. Area: 77,615 sq. mi. Population: (July 1, 1948) 623,000, compared with (1940 census) 642,961. Chief cities: Pierre (capital), 4,322 inhabitants in 1940; Sioux Falls, 40,832. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$36,175,000; total expenditure, \$30,035,000.

Elections. Dewey won the 4 electoral votes with a popular majority over Truman and Wallace not half as large as his 40,000 majority in 1944. Congressman Karl E. Mundt, Republican, was elected Senator. Republicans retained the 2 House seats. Incumbent Republican Governor George T. Mickelson was reelected. Other State officers elected included: Lieutenant Governor—Rex Terry; Secretary of State—Annamae Riiff; Attorney General—Sigurd Anderson; Land Commissioner—Bernard Linn. The voters approved a \$30 million bond issue for veterans' bonuses.

Officers, 1948. Governor, George T. Mickelson; Lieut. Governor, Sioux K. Grigsby; Secretary of State, Annamæ Riiff; Attorney General, Sigurd Anderson; State Treasurer, C. E. Buchler; State Auditor, Steve E. Anderson; Commissioner of School and Public Lands, John A. Lunden.

SOUTH PACIFIC COMMISSION. This regional international organization was set up by the South Seas Conference at Canberra, Australia, in January-February, 1947, when an Agreement was signed by the Governments of Australia, France, the Netherlands, New Zealand, the United Kingdom, and the United States of America. It was established as a consultative and advisory body to assist the six signatory governments in promoting the social and economic advancement of the approximately 2 million peoples in the non-self-governing territories within the scope of the Commission. The territorial scope has been defined as comprising "all those non-self-governing territories in the Pacific Ocean which are administered by the participating governments and which lie wholly or in part south of the Equator and east from and including Netherlands New Guinea."

For the accomplishment of the purposes of the organization, the Agreement provides for two bodies auxiliary to the Commission: (1) The South Pacific Research Council, a standing advisory body to be composed of persons distinguished in the fields of research within the competence of the Commission; and (2) the South Pacific Conference, a periodic conference of representatives of the local inhabitants in the region.

An interim organization was established at Sydney in April, 1947, and functioned in the intervening period. On Nov. 26-28, 1947, a Preparatory Conference attended by representatives of the participating governments met in Australia for the purpose of considering matters affecting the preliminary organization of the Commission.

United States participation in the South Pacific Commission was authorized by Public Law (80th Congress, 2nd Session), approved by the President on Jan. 28, 1948. The President on that day also signed the instrument of acceptance of the Agreement Establishing the South Pacific Commission. The Agreement, duly ratified by the signatory governments, came into force on July 29, 1948.

The Commission, which held its First Session at Sydney, Australia, on May 11-21, 1948, is composed of two Commissioners and their alternates appointed by each of the six governments. Among

the more important items on the agenda were the permanent seat of the Commission; the appointment of the Secretary General, the Deputy Secretary General, and the Deputy Chairman of the South Pacific Research Council, the organization of the Research Council, the South Pacific Conference, and the establishment of the Working Committee, which meets frequently between sessions and makes policy decisions for the Commission and the Secretariat. The six nations also agreed that the following projects should be given immediate and active attention: (1) Production of food to be increased in order to raise nutrition standards and to augment food exports; (2) mechanization of the copra industry and the study of by-products and essential uses of copra residue; (3) intensification of fisheries research to improve present inadequate supplies; (4) construction of more ships to encourage production and to relieve shortages of goods; (5) improvement of infant and maternal welfare; (6) collection and dissemination of information on training of islanders in technical skills; (7) stimulation of education by radio and film strips; and (8) dissemination of information on modern agricultural practice.

The selection of Nouméa, New Caledonia, as the site for the permanent headquarters of the Commission, together with appointments to the senior positions on the staff of the Commission and of the Research Council, were among the major decisions enacted by the Commission at its Second Session, which was held at Sydney from October 25 to November 2, 1948.

The Senior Commissioners for the Commission in 1948 were: Australia, Mr. J. R. Halligan; France, Mr. R. F. Lassalle-Séré; the Netherlands, Mr. A. J. Beversluis; New Zealand, Mr. C. C. R. McKay; the United Kingdom, Sir Brian Freeston; and the United States, Dr. Felix M. Keesing.

—EDNA H. BARR

SOYBEANS. The 1948 soybean crop of the United States was estimated at 220,201,000 bushels—the largest on record. This compares with the 1947 crop of 183,558,000 bu. and the 10-year average (1937-46) of 134,642,000 bu. The yields of the principal producing States were (in bushels): Illinois 78,504,000, Iowa 35,443,000, Indiana 31,196,000, Ohio 18,614,000, Missouri 15,900,000, Minnesota 15,614,000. For the United States the yield per acre was 21.4 bu.

SPAIN. A state of southwestern Europe, occupying the greater part of the Iberian peninsula.

Area and Population. Area, 196,607 square miles, including the Balearic and Canary Islands. Population, 27,761,000 (1948 est.). Principal cities, Madrid (capital), Barcelona, Valencia, Sevilla, Zaragoza, Málaga, Murcia, and Bilbao.

Education and Religion. Roman Catholicism is the official religion of the state. After the Civil War, the Church was restored to its preeminent position, its confiscated property returned, religious education introduced in the public schools, and divorce suppressed. According to the latest census, the country has 45,000 non-coeducational elementary schools, with an enrollment of 4,480,619 pupils, and an additional attendance of 483,243 adults. There are 120 intermediate schools or institutos, with an attendance of 185,644 students, and twelve universities throughout Spain, that in 1945 had a total enrollment of 39,400 students. There are also 31 seminaries or ecclesiastical schools with 6,555 students enrolled. The government claims that the rate of illiteracy is only 5 percent of the youth

population, and about 20 percent of the adults.

Production. Spain's economy is based on agriculture and mining. Chief items of mineral production in 1947 (in metric tons) were estimated as follows: coal, 10,476,000; iron ore, 396,600; pig iron, 502,800; steel ingots, 541,200; and lead, 28,320. Principal agricultural exports consist of citrus fruits, olive and vegetable oils, fresh fruits, onions, raisins, almonds, bananas, tomatoes, potatoes, olives, and cork products. Important industries are textiles, metallurgical and chemical products, glass, leather, fish, and vegetable canneries.

Foreign Trade. For 1948 (9 months actual, 3 months estimated): total exports were valued at \$339,960,000; total imports at \$469,200,000. Total exports in 1947, valued at \$306 million; total imports, valued at \$396 million. (Official rate of exchange, November, 1948: \$U.S. = 11.22 pesetas.)

Spain has important trade agreements signed with the United Kingdom, France, and other European and Latin American countries. On Apr. 3, 1948, she signed an agreement with Argentina, and on May 10, another one with the United States and Great Britain, settling the liquidation of the German assets, gold, and property in Spain. Although there is no trade agreement with the United States, the average monthly trade exchange amounts to nearly \$6 million.

Transportation. The country has 7,932 miles of broad-gauge track and 2,955 miles of narrow-gauge lines. The national highway system consists of about 79,672 miles of highway and 6,100 miles of provincial roads. The merchant marine had a registered tonnage of over one million tons in 1946. The Iberia National Airlines serves the country and provides transportation to the Balearic Islands, as well as transoceanic service to the Canary Islands and Argentina. Spain is also served by American, British, Dutch, Swiss, Portuguese, Cuban, and Mexican international airlines.

Finance. In the 1947 budget, revenue was estimated at 12,963,523,857 pesetas and expenditure at 11,358,827,402 pesetas, of which 4,800,848,758 were allocated to the armed forces, or more than one-third of the whole. Currency in circulation in September, 1948, was 25,300 million pesetas. Gold reserves on the same date were \$111 million. Cost of living in September, 1948, was 450 (July, 1936 = 100).

Government. As a result of the Civil War that ended in 1939, the Spanish Republic established in 1931 was replaced by the dictatorship of Generalissimo Francisco Franco, who was recognized as head of the Rebel Nationalist Government in Burgos during the early stages of the Civil War, on Oct. 1, 1936. A law promulgated by Franco on Mar. 31, 1947, and ratified by the Cortes on June 7 of the same year, granted him life tenure as Chief of the State and set up a Regency Council, which is to enthrone a king as his successor, if he dies or has to be replaced. The Cortes Parliament has as its principal function the planning and formulation of laws, but its members cannot introduce legislation. Cabinet Ministers, Civil Governors, university heads and presidents of learned bodies are ex-officio members of the Cortes.

Events, 1948. Spain had another year under Franco's dictatorship, with no indications of an immediate return to a democratic form of government.

Domestic Front. Political news from inside Spain has consisted mostly of speculations with regard to Franco's successor. The only tolerated opposition, composed of the different monarchist factions, were working to have their candidates approved

by the Caudillo (Franco) and the European powers. Early in the year, Franco filled all vacancies of the Council of the Realm, the important political organ which is to select the king in case of resignation or death of the Caudillo. New appointees were army officers, important businessmen, members of the nobility and the higher clergy. An effort to win the support of the Latin American republics was the resurrection of the old Instituto de la Hispanidad (a cultural organization created by the Falange to strengthen cultural ties with Spanish-speaking countries). In Barcelona, the Instituto held a formal Congress in May, where all propaganda aimed at the similarity between the objectives of Perón in Argentina and Franco in Spain. In June, Laureano Gomez, leader of the Conservative Party of Colombia, who fled his country after the Bogotá riots in April (see COLOMBIA), made his residence in Madrid, where the Instituto formally entertained him.

The Search for Dollars. The economic condition of the country was difficult. Reports from tourists who returned from Spain indicated that in the rural areas the situation was better than in the cities, where poverty was evident. The contrast between the wealthy classes of Spaniards and the middle and lower classes was sharper than ever. In Madrid, for example, there were more beggars, fewer taxis, and such a scarcity of electricity that elevators functioned only at certain hours of the day. The government tried to ease the shortage of exchange by securing economic help from the United States. Franco's ambassador in Paris, José Félix Lequerica, came to the U.S. to try to obtain a loan.

In November, Franco stated to the *New York Times* correspondent in Madrid that he was seeking a \$200 million loan from the U.S. This help, according to him, did not have to be included in the ECA because "the other nations that participate in it do not appear to want Spain." This, of course, meant that Franco wanted the \$200 million, but no interference with his form of government. He pointed out that Spain was the bulwark against Communism in Europe and added that he could wait no longer for economic help. The Madrid press was disturbed over the Truman victory, as they had expected an easier time if John Foster Dulles had become Governor Dewey's Secretary of State.

Monarchist Activities. The different monarchist pretenders continued to pull their respective wires during the year. The Carlists were active in January and February, but as they were divided into two factions, they accomplished little. Nevertheless, pretender Carlos Pio, who calls himself Carlos VIII, said in June that he stood the best chance of becoming Franco's successor, as Alfonso XIII's son, Juan de Borbón, had lost Franco's favor. Carlos announced as his program that he would keep law and order; would cooperate especially with the United States, and would "defend the sanctity of private property."

Monarchist activities within Spain were highlighted by trouble caused to Franco by various Borbón followers, some of whom Franco did not hesitate to imprison. Two of these were General Kindelán and the colorful Duchess of Valencia, who was sentenced in December to one year's incarceration. From without, pretender Juan de Borbón attempted to draw closer to Franco. In August, he and the Caudillo met on board a yacht, and it was rumored that conversation centered around the education of Juan's son, prince Juan Carlos. The Madrid press reported that the young prince

would come to Spain to continue his high-school studies in a Spanish school, in order to prepare him for his future duties as King of Spain. This rapprochement between Juan and Franco was credited to Foreign Minister Alberto Martín Artaño, former head of Catholic Action, and was meant to counterbalance the efforts made by the Socialists to form a coalition with other monarchist factions, with the purpose of ousting Franco from power.

Municipal Elections. On November 21, an election for members of town councils was held. The event attracted little attention from the people, as the electoral law grants the vote only to "heads of families with full civil capacity," a method of eliminating government opponents. Voting took place in 9,332 cities, but as restrictions eliminated more than half of the voting population, it was estimated that not more than 20 percent went to the polls. One result of the election indicated internal division among the groups supporting Franco. All the candidates were picked by top men in the Franco clique. Some were monarchists, some Falangists, others belonged to Church groups, industry or big business. Each of these groups struggled to control the municipal positions, and Franco appeared to be favoring the Church and the monarchists, rather than the Falangists.

International Front. On February 10, the borders with France that had been closed since 1946 were officially opened. The Franco press thought this was a feather in their cap, but the English and French governments announced that the opening of the border had not changed their foreign policy. During the year, important visitors from the United States gave occasional spurts to Franco's optimism. Among them were James A. Farley and Senator Chan Gurney, Chairman of the Senate Armed Services Committee. Both visitors publicly expressed their friendship toward Franco's regime; however, the State Department stated that their opinions did not reflect the stand of the U.S. government, but were purely personal ones.

The most important international event of the year was Franco's effort, backed by a small group of Latin American countries under the leadership of Argentina, to gain admission for Spain to the United Nations, and participation in the ECA. The traditional propaganda line was used at the Paris meeting of the U.N., to the effect that Spain was needed for the defense of the western hemisphere. However, this boomeranged, because the Benelux countries and France and England feared that in case of war the United States would center all strength south of the Pyrenees and abandon northern Europe. The pro-Franco proposal thus met with a cold reception from a majority of the United Nations countries.

Another important development on the international front was the signature of a pact between the Spanish Socialist Trade Union movement, headed by Indalecio Prieto, and the supporters of Spanish pretender Juan de Borbón. This pact was presented on October 6 to the British, American, and other Western governments. The British Foreign Office made a favorable comment, and naturally the Franco government protested. The main features of the pact were that both parties pledged themselves to the reestablishment of a democratic government in Spain, eliminating all totalitarian tendencies; the holding of free elections to determine the form of government preferred by the Spanish people; and the incorporation of Spain in ERP and the Brussels Alliance. See PORTUGAL.

—MIGUEL JORRÁN

SPANISH GUINEA. A West African colony of Spain, comprising the mainland area known as Continental Guinea (10,040 square miles; pop. 138,797), and the islands (pop. 28,708) in the Gulf of Guinea: Fernando Pó (800 sq. mi.), Annobón (7 sq. mi.), Corisco (5.5 sq. mi.), Little Elobey (22 acres), and Great Elobey (0.75 sq. mi.). Chief towns: Santa Isabel (capital), and Bata. The principal products are cacao, coffee, vegetables, fruits, and timber. Spanish Guinea is divided into two districts: Continental Guinea and Fernando Pó. Included in the district of Continental Guinea are the islands of Great Elobey, Little Elobey, Corisco, and Annobón. The whole territory is under a governor general, assisted by a sub-governor, and a secretary general.

SPANISH LITERATURE. No change of any significance can be recorded in Spanish letters during the past 12 months. If any trend can be detected in comparison with previous years it is rather a slackening in tempo. The generation of young novelists and poets who became known after the Civil War and gave rise to the hope of a certain awakening seems to have, at least for the moment, reached an impasse and no new book has appeared lately to foster that hope. This slackening in tempo and the scarcity of new works are parallel no doubt to what is happening in other European countries as a result of the insecurity and transitional character of our time, but is also due to the peculiar circumstances of Spanish life under the present regime.

In contrast with the dearth of new literary values are still the considerable amount of books that are published under the auspices of the Superior Council for Scientific Research and the thriving business of some editorial houses with numerous series of "Complete Works" of classic as well as modern, and of foreign as well as Spanish writers, or with the ever-increasing number of translations of well known and popular European and American writers.

Survival of the Past. A simple gaze at any bibliography or book catalog leaves the very clear impression that the Spanish literary and intellectual production leans heavily toward religious and ecclesiastical subjects. The works on theology, philosophy and history of religion, and Biblical and canonical studies probably outnumber the publications in any other field. Historical subjects, studies on archeology, and editions or commentaries of Spanish classics come in second place.

Centennial commemorations, such as Cortés' and Cervantes' last year, are given much prominence. This year those of the 16th century philosopher Francisco Suárez, the dramatist Tirso de Molina, and the 19th century thinker Jaime Balmes have been celebrated with great pomp, a wealth of lectures and committees, and the same doubtful results, as far as lasting contributions are concerned. If to this is added that the contemporary authors who still are in the limelight are the survivors of the "generation of '98," the conclusion that the clock has stopped or at least slowed down considerably cannot be escaped.

Azorín, for instance, has been the most prominent author of the year. He was the object of two important testimonial homages and the publication of his complete works, now in the 8th volume, together with his new book *Con permiso de los cervantistas*, a collection of articles on Cervantes, have attracted much attention. Baroja's "complete works" are also being published with great success and the 5th volume of his *Memoires (La intuición y el estilo)* has been widely read.

In the languid life of the Spanish theater the veteran Jacinto Benavente, close to his 83d birthday, has been once more the author of the two most successful and valuable plays of the season: *El divorcio de las almas* and *Abdicación*. He received, besides, the Prize Mariano de Cavia intended to stimulate young journalists, for his article "Al dictado." The great scholar Ramón Menéndez Pidal was reappointed Director of the Spanish Academy, after 8 years of an unfair separation from that office, which he held before 1936. Writers like Eugenio d'Ors, Concha Espina, or Doctor Gregorio Marañón have been also much in the public light for different reasons.

José Ortega y Gasset, who seems to have gone back to Spain permanently after 12 years of self-imposed exile, although we do not know of any new book of his published this year, is still the leader of intellectual life in Spain on its highest levels. This impression of the lack of new stimulus in Spanish letters is strengthened when we consider that probably the two most interesting books of criticism—Melchor Fernández Almagro's *En torno al 98: Política y literatura* and Victoriano García Martí's *El Ateneo de Madrid* (1935-1935)—deal with the forces and atmosphere which shaped the trend of Spanish literature and life at the beginning of the century.

Fiction, Poetry, and Drama. The first two are the fields in which, as in previous years, the new generations are more active. As we have already said, nothing strikingly new has been produced, but a few books deserve to be mentioned.

Among the novels: *El destello* by Ricardo Gullón; *La sombra del ciprés* by Miguel Delibes, which received the Nadal Prize awarded to the most promising new novelist; *Hospital General* by Pombo Angulo; and *Caminos de noche* by Sebastián Juan Arbó. Of the better known young novelists, Camilo José Cela seems to have abandoned fiction for a moment and has published a book of travels through the central plateau, *Las botas de siete leguas* and a *Cancionero de la Alcarria*.

Poetry continues to be the literary genre which has the greatest attraction for young writers, due as we pointed out last year to the impulse given to this form of expression by previous generations. The "Collection Adonais" has reached already its 51st volume. Among the new volumes are *Señal de vida* by José María Souviron; *Contemplación del tiempo* by Eugenio de Nora; *Las incredulidades* by Rafael Montesinos; *Elegías* (1943-45) by Dionisio Ridruejo; *Vacación de estío* by Guillermo Díaz Plaja; and an interesting translation of English metaphysical poets, *Poetas ingleses metafísicos*, done by Mauricio Molho and Blanca G. Escandón.

At the same time two new collections have begun publication. One is "El viento Sur," in which the volume *Soria* by Gerardo Diego, the best known of Spanish poets living in Spain, is to be published shortly (it may have appeared already). The other is "Norte" which includes three volumes of translations (Rilke, William Blake, and Rimbaud) and three by Spanish poets: Gabriel Celaya, *Movimientos elementales*; Rafael Múgica, *La soledad cerrada*; and Leopoldo de Luis, *Huésped de un tiempo sombrío*. Of the older poets, Vicente Aleixandre has published *En la muerte de Miguel Hernández* and Rafael Murube, *Tierra y canción*.

Nothing remarkable has been produced in the theater. As we pointed out, Benavente is the most successful dramatist and producers try to infuse some new life by constant revivals of old plays. The actress Catalina Bárcena has reappeared in Madrid after a long absence, with the same plays

by Martínez Sierra which made her known 80 years ago. *Juan José* by Dicenta, a social play, which stirred audiences at the beginning of the century, has also been revived. Of new plays only two deserve mention: *El beso de la bella durmiente*, by Agustín de Foxá (produced in Madrid), and *El aprendiz de amante* by Víctor Ruiz Iriarte (produced in Barcelona).

Erudition and Literary Criticism. This is perhaps the field in which Spanish letters as a whole show greatest activity at present, or should we say in which Spanish writers feel themselves on safer ground. We should therefore note a few additions to the literary knowledge of the past. First in importance comes the newly revised and amplified edition of the *España del Cid* by Menéndez Pidal, the master of Spanish historians and critics, who also contributed to the Cervantes centennial with a remarkable essay, *Cervantes y el ideal caballeresco*.

Deserving of first place among editions of Spanish classics is the translation done by Lorenzo Ribera of the Complete Works of Luis Vives, the greatest Spanish humanist of the Renaissance. Mention is also due the edition of Fernando de Herrera, *Rimas inéditas*, by José Manuel Blecuá. Although of a purely philological interest, the first fascicle (letter A) of the *Tesoro lexicográfico español* by S. Gili Gaya is of great value for the study of the Spanish language. Other books which should receive the attention of scholars and students of Spanish letters are: the study of Garcilaso de la Vega by Rafael Lapesa, now at Princeton University; *Los tratados sobre educación de príncipes*, by María Angeles Galino; *La mala vida en la España de Felipe IV* by José Deleito y Piñuela; *La Condamine en la América Central*, by Ricardo Majó Framis; and *Antonio Alcalá Galiano*, by Felipe Ximénez de Sandoval.

New Reviews—Significant Trends—Varia. A curious and at the same time interesting phenomenon is this—that while Spanish writers as far as original creations are concerned seem to be fighting against the vacuum produced by isolation in a semitotalitarian regime; they are giving, nevertheless, many signs of vitality. Of these one is especially noticeable; the abundance of new literary reviews, some of them of considerable interest, such as *Finisterre* (reappeared after a long interruption), and although of minor character, *Doncel* and *Ratá*.

Two of these reviews should be mentioned separately: *Cuadernos Hispanoamericanos* and *Mundo Hispánico*, for together with many other trends—such as the constantly increasing numbers of Spanish intellectuals crossing the Atlantic toward the South and the invitation to visit Spain extended to Spanish-American writers sympathetic with the present Spanish regime, etc.—they show a decided and strong trend toward the "approchement" of the Spanish-speaking countries under the aegis of the "Hispanidad" movement.

Of a different nature, in the sense that it is not official but the result of an imperative longing, are the few attempts to bridge the gulf with Spanish writers in exile. A few, like Benjamín Jarnés, have returned lately to the fatherland; books before forbidden are beginning to be reprinted; homages have been published or organized in Spain in honor of writers like Juan Ramón Jiménez and Jorge Guillén; and the contributions of many writers whose names could not even be mentioned two or three years ago, appear in increasing numbers in Spanish reviews and periodicals. In this the literary magazine *Insula*, a true island in the Spanish atmosphere, leads the way.

Three writers, identified in the past decades with youthful movements of renovation, have been received in the Spanish Academy: the poet Gerardo Diego, one of the leaders of the "ultraist" movement in the twenties, and the critics Dámaso Alonso, the main exponent of neogongorism, and José María Cossío.

No writer of great prominence has died within the year. The best known among those who passed away are María de Maczku, who died in Argentine, Pedro de Répide, and Francisco Camba.

Literature in Exile. After covering at some length the literary events in Spain itself, it should be recalled that a number of the most prominent Spanish writers are still living in exile. They are scattered in many countries, especially in Mexico, South America, and the United States; they are forced to make their living by teaching, writing for reviews and magazines, working in some editorial enterprises, or in occupations alien to their main interests. Their books, published mainly in South America, are slow in reaching us. For these reasons it is not easy to follow their activities nor to sum up briefly their literary accomplishments.

It can be stated however that the most valuable Spanish books are today published outside Spain. Such is the case for instance of Américo Castro's *España en su historia, cristianos, moros y judíos*, probably the most important book published in Spanish in 1948. It is a profound and scholarly work interpreting Spanish culture as an integration of European and Oriental elements. It is worthy of occupying a distinguished place at the side of the great works about Spain of men like Unamuno, Ortega y Gasset, or Menéndez Pidal. Very valuable are also two books of criticism by Pedro Salinas, *Jorge Manrique o tradición y originalidad* and *La poesía de Rubén Darío*, or the book by Ferrater Mora, *El sentido de la muerte*, a remarkable philosophical essay. Although published in English, Madariaga's *The Fall of the Spanish American Empire* could also be included. Poetry, fiction, and drama are not lacking among the exiled Spanish writers, but no book has appeared during 1948 in these fields, as far as we know, which can compare in importance with those mentioned.

—ANGEL DEL RÍO

SPANISH SAHARA. A Spanish colony in northwest Africa, comprising two zones: Rio de Oro (73,362 sq. mi.), and Sekia el Hamra (32,047 sq. mi.). Population: 37,000, exclusive of some 31,000 nomads. The colony is under the administration of the High Commissioner of Morocco.

SPICES. The continuance of political uncertainty in Indonesia in 1948 has had a direct effect on the supply and price of pepper, the world's most important spice. Before World War II Indonesia (The Netherlands East Indies) supplied 90 percent of the world's pepper. Neglect of vines during the Japanese occupation sharply curtailed pepper exports from the ancient "Spice Islands." The Indonesian 1948 pepper crop is estimated at only 11 million lb., less than one-tenth of prewar, and about 18 percent of total world production.

The following statement from the American Consulate General in Batavia illustrates the outlook in the Banka area: "Replanting took place steadily, and was particularly heavy in February and March, 1948. This replanting, however, decreased with the coming of the dry season in May. At the end of May a total of 371,500 vines were standing (prewar 12 million), of which about 180,000 were bearing. Many of these old vines, how-

ever, are not being allowed to bear, being used for producing seedlings."

While Indonesia has been losing ground, India has risen to the opportunity and is today the world's leading pepper exporter, accounting for about 80 percent of the world's production. India's 1947-48 crop, harvested from December to March, was about 38.1 million lb. The 1948-49 crop is estimated at 40 percent above last year's, or about 50 million lb., of which the United States may receive about half.

In a visit to the United States in December, 1948, Vallabdas V. Mariwala, president of an Indian trade group, predicted that his country will retain much of its present expanded business.

Despite the increase in Indian production, total world production for 1948 is estimated by the United States Department of Commerce at about 35 percent of prewar. United States prewar imports of pepper alone have at times exceeded today's total world production. Although the desire of Indian exporters for dollar credits tended to favor the United States in 1948, warehouse stocks of pepper in the Port of New York has been less than 2 million lb. since June, 1946, as opposed to about 94 million lb. in 1938-39. Imports have moved directly into consuming channels. Active bidding forced quotations for black pepper warehoused in New York from about 40¢ per lb. in March to 80¢ in December, 1948.

During 1948 pepper traders have been looking forward eagerly to a solution of the Indonesian-Dutch difficulties which would bring peace to Indonesia and result in opening up the pepper-producing districts. A resumption of pepper shipments would greatly ease the present world shortage and probably result in a downward readjustment of prices.

The 1948 price and supply of other spices and seeds remained about the same as 1947, close to prewar levels.

Production of mustard seed in the United States for 1948 is predicted at only about 14.5 million lb., compared with 20,990,000 in 1947. This is due to crop conditions. The United States still produces almost all the mustard seed that it consumes. The same is not true, however, of domestically-grown sage, which boomed during the war and has slipped badly since. High growing costs in this country invited the postwar reentry of quality Dalmatian sage, and our imports are almost back on a prewar footing.

The report on the first of Zanzibar's two annual clove crops indicates production in 1948 of 9,473,000 lb., just slightly above the lowest crop on record. The 1948 Spanish paprika crop is estimated at 31,856,000 lb., about the same as 1947. United States imports for the first six months of 1948 totaled 1,815,000 lb., and 4,046,000 lb. in 1947. Portugal's paprika crop will be lower in 1948, estimated at 2,204,600 lb. In 1947 the United States imported 1,116,000 lb. from Portugal. Production of ginger root on the island of Jamaica is estimated at 3.5 million lb., slightly larger than 1947. There was a slight increase in Cassia imports despite China's civil strife.

At their 43rd annual convention in May, 1948, members of the American Spice Trade Association voted to assess themselves one dollar per thousand dollars of sales volume to finance research and public relations programs. The research program started in 1947 was continued and expanded. A "Spice of the Month" promotional campaign was launched in September, 1948, to help homemakers understand the proper use of spices. Emphasis in this

program is on basic, rather than gourmet, foods.

Wartime rationing and postwar high food costs have resulted in increased consumer awareness of the value of proper seasoning in the American cuisine. Numerous sources report a definite trend toward cooked dishes using lower-cost ingredients but calling for greater skill in preparation. The American Spice Trade Association has received an unprecedented number of requests for food information and recipes calling for spices, seeds, and herbs, and reports a new tendency on the part of the homemaker to experiment with well-seasoned foreign dishes to give variety to her cuisine.

—BERNARD L. LEWIS

STATE, U.S. Department of. Under the direction of Secretary of State George C. Marshall, the Department of State in 1948 engaged in activities aimed at achieving national security, world-wide economic reconstruction, and a lasting peace.

In pursuance of these and related objectives, the Department arranged for and coordinated American participation in the United Nations, in other international bodies, and in international conferences, including a large number on professional and scientific subjects. This participation involved attendance at the Second Special (Palestine) Session and the Third Regular Session of the General Assembly, discussions in the Security Council and the other basic organs, and activities in relation to the specialized agencies. The Department, with Congressional authorization, formally accepted membership in the World Health Organization (a specialized agency of the United Nations), the South Pacific Commission, and the Caribbean Commission, all three of which had been organized with the active help of the United States or (in the case of the Caribbean Commission, in 1942) on the initiative of this country.

Among the international meetings in which the United States participated in 1948 were the Geneva Conference on Freedom of Information, the Geneva Maritime Conference, and the Habana Conference on Trade and Employment (all three of which were held under the auspices of the United Nations). In addition, this Government took part in the Special Paris Meeting of the Council of Foreign Ministers on the disposition of former Italian colonies, the Belgrade Conference on Navigation of the Danube, the Ninth International Conference of American States at Bogotá, the London Conference on Safety of Life at Sea, and talks in London regarding the future government of Germany and international control of the Ruhr. Outstanding achievements of these Conferences included the signing of charters at Bogotá for the Organization of American States, at Habana for an International Trade Organization, and at Geneva for an Intergovernmental Maritime Consultative Organization, as well as the drafting of three conventions on freedom of information by the Geneva Conference on that subject.

The Department continued its efforts to achieve the settlement of territorial, treaty, and control problems arising from the war. In Korea, the Department cooperated with a United Nations commission which carried out the terms of the General Assembly resolution of Nov. 14, 1947, resulting in the establishment of a Republic of Korea recognized by the United Nations. The Department took part in discussions concerning an Austrian treaty in meetings of the Deputies of the Council of Foreign Ministers and on a proposed protocol to the Italian treaty, with respect to Italian colonies, in meetings of the Deputies and of the Foreign Min-

isters. Negotiations regarding Japanese problems were continued in the Far Eastern Commission. The Soviet blockade of the western sectors of Berlin was the subject of discussions at Moscow and Berlin, which were recounted in a documented narrative published by the Department.

As an important step toward the realization of collective security and world order, the Department encouraged the development of a western European union and engaged in conversations with representatives of Belgium, Canada, France, Luxembourg, the Netherlands, and the United Kingdom on security problems of common interest in relation to the Vandenberg Resolution of June 11, 1948. In furtherance of the objective of the United States to achieve world peace through economic security, the Department maintained close liaison with the Economic Cooperation Administration, developing policy on foreign-assistance programs, aiding in the development and conclusion of agreements with the participating countries, and currently exchanging pertinent information with the Administration and its staff. Two United States observers were sent by the Department to the Rome Manpower Conference attended by representatives of the 16 countries which had participated in the Paris Conference of the OEEC (Organization for European Economic Co-operation).

Developments in the organizational structure of the Department during the year included the reorganization of the overseas-information and educational-exchange units; the designation of public leaders to comprise Advisory Commissions for Information and Educational Exchange; the establishment of media for close coordination with the Economic Cooperation Administration regarding foreign-policy aspects of the European recovery program; and the establishment of an Interim Office for German Affairs, to perform consular functions for German nationals in the United States.

In the Foreign Service, diplomatic missions were newly established in Ceylon, Israel, and Korea, and the Legation in Afghanistan was elevated to Embassy status. Personnel changes in the Foreign Service included the appointment of new or first Ambassadors to 19 countries and new or first Ministers to 5 countries. Realignment of consular work in various parts of the world to meet changed conditions involved the closing of 19 Consulates, the opening of 13, and changes in the status of 9 other posts. Paul C. Daniels was appointed as the first United States Representative on the Council of the Organization of American States, established in accordance with the Charter adopted at Bogotá.

High-ranking officers of the Department as of Dec. 20, 1948, were as follows: Secretary of State, George C. Marshall; Under Secretary of State, Robert A. Lovett; Counselor, Charles E. Bohlen. The six positions of Assistant Secretary of State and the incumbents were: Economic Affairs, Willard L. Thorp; Political Affairs, vacant, Norman Armour having resigned during the year; Occupied Areas, Charles E. Saltzman; Transportation and Communications, Garrison Norton; Public Affairs, George V. Allen, who was appointed in 1948; and Administration, John E. Peurifoy. Ernest A. Gross was Legal Adviser, and W. Park Armstrong, Jr. was appointed as Special Assistant for Research and Intelligence.

Assisting the Secretary and the Under Secretary were: George F. Kennan as Director of the Policy Planning Staff; Michael F. McDermott as Special Assistant to the Secretary for Press Relations; George C. McGhee as Coordinator for Aid to Greece and Turkey; and Carlisle H. Humelsine as

Director of the Executive Secretariat. Two newly created posts were occupied by Henry R. Labouisse, Jr., as Coordinator for Foreign Aid and Assistance, and Wilbert Chapman as Special Assistant for the handling of international fisheries and wildlife problems.

The organization of the Department is indicated below.

1. The Assistant Secretary for Political Affairs administers four Offices, those dealing with European, Near Eastern and African, Far Eastern, and American Republic Affairs. These Offices consist respectively of (1) Divisions dealing severally with the British Commonwealth, central Europe, northern Europe, eastern Europe, southern Europe, and western Europe; (2) Divisions concerned with the Near East, south Asia, Africa, and the Greek-Turkish-Iranian area; (3) the Divisions of Chinese, Northeast Asian, Southeast Asian, and Philippine Affairs; and (4) Divisions dealing with special inter-American affairs, Mexico, Caribbean republics, Central American republics and Panama, Brazil, countries on the north and west coast of South America, and River Plate countries.

2. The Assistant Secretary for Economic Affairs administers the Offices of International Trade Policy, of Financial and Development Policy, and of the Foreign Liquidation Commissioner, consisting respectively of (1) Divisions dealing with commercial policy, international resources, petroleum, and international labor and social affairs; (2) the Divisions of Financial Affairs, Investment and Economic Development, and Economic-Property Policy; and (3) the Research and Statistics, Administrative, Budget and Accounting, Compliance, and General Disposals Divisions.

3. The Assistant Secretary for Transportation and Communications has jurisdiction over the Office of Transport and Communications, consisting of the Aviation and Telecommunications Divisions.

4. The Assistant Secretary for Public Affairs has under his jurisdiction the UNESCO Relations Staff, the Public Affairs Overseas Program Staff, and the Offices of Public Affairs, International Information, and Educational Exchange. The three Offices consist respectively of (1) the Divisions of Public Liaison, Public Studies, Historical Policy Research, and Publications; (2) the Secretariat of the United States Advisory Commission on Information, and the International Press and Publications, International Broadcasting, and International Motion Pictures Divisions; and (3) the Secretariats of the United States Advisory Commission on Educational Exchange and of the Interdepartmental Committee on Scientific and Cultural Cooperation, and the Divisions of Libraries and Institutes and of Exchange of Persons.

5. The Assistant Secretary for Administration is responsible for four Offices, concerned with the Foreign Service, Departmental administration, budget and planning, and controls, and consisting respectively of (1) the Divisions of Foreign Service Planning, Foreign Service Personnel, Foreign Reporting Services, Foreign Service Administration, and Foreign Buildings Operations, and the Foreign Service Institute; (2) the Divisions of Departmental Personnel, Central Services, Communications and Records, Cryptography, International Conferences, and Language Services; (3) the Divisions of Finance and of Organization and Budget; and (4) Divisions responsible for policies concerning passports, visas, protective services, security, and munitions.

6. The Assistant Secretary for Occupied Areas is responsible for the coordination of Department

of State policies with respect to the occupation and government of occupied areas, to arms and armament matters, to refugees and displaced persons, and to questions coming before the Far Eastern Commission. He provides Department of State representation on the State-Army-Navy-Air Force Coordinating Committee.

7. The Legal Adviser is responsible for all matters of a legal character concerning the Department and the Foreign Service. His Office includes Assistant Legal Advisers for Political Affairs, International Claims, Administration and Foreign Service, Public Affairs, International-Organization Affairs, Economic Affairs, Military Affairs and Occupied Areas, and Special Problems, and an Assistant for Treaty Affairs.

8. The Special Assistant to the Secretary for Research and Intelligence has jurisdiction over the Office of Intelligence Research and the Office of Libraries and Intelligence Acquisition, consisting respectively of (1) the Divisions of Research for American Republics, Europe, Far East, and Near East and Africa, and the Division of International and Functional Intelligence; and (2) the Divisions of Library and Reference Services, Acquisition and Distribution, and Biographic Information.

9. The Office of United Nations Affairs, comprising the Divisions of United Nations Political Affairs, United Nations Economic and Social Affairs, International Security Affairs, and Dependent Area Affairs, serves as the focal point of the Department for coordination and integration of matters relating to American participation in the United Nations and in related specialized and regional international organizations.

SUEZ CANAL. A sea-level canal, 103 miles long, across the Isthmus of Suez, connecting the Mediterranean and the Red Sea. It is owned by the French Compagnie Universelle du Canal Maritime de Suez, in which the government of Great Britain holds 295,026 shares of a total of 652,932. A board of 32 administrators governs the canal. In June the former U.S. Ambassador to Turkey, S. Pickney Tuck, was appointed a member of the board, the first American to act in that capacity. The concession held by the French company will expire on Nov. 17, 1968, when it will revert to the Egyptian government.

The number of ships passing through the canal in 1939 and 1946, with net tonnages, and total receipts, are shown in the accompanying table.

Year	Ships	Net tonnage	Receipts (francs)
1939.....	5,277	29,573,304	1,389,199,381
1946.....	5,235	33,239,833	6,523,785,799

Of the total number of ships (excluding military vessels) passing through the canal in 1946, Great Britain led with 2,311 ships aggregating 12,711,578 net tons, followed by the United States with 785 ships of 5,645,750 net tons; Norway 312 ships, 1,816,297 net tons; Netherlands 244 ships, 1,735,071 net tons; France 95 ships, 640,331 net tons. A total of 1,046 warships and transports of 9,008,589 net tonnage passed through the canal in 1946. In the same year 925,924 civil and military passengers went through the canal.

SUGAR. The world output of beet and cane sugar for the 1948-49 season was estimated at 37,664,000 short tons (raw value), 11 percent more than the 33,869,000 tons produced in 1947-48. Major increases in Mexico, Europe generally, the U.S.S.R., India, Pakistan, the Philippines, Formosa, Java,

Australia, and Hawaii more than offset decreases in the United States and Cuba. The world output for 1948-49 (considering the production in India and Pakistan in terms of gur—a low grade of brown sugar) was the largest on record and compared with the previous high of 36,238,000 short tons produced in the 1939-40 season.

In North and Central America, including the West Indies, the output of sugar was estimated at 11,285,000 short tons, compared with 12,004,000 tons in 1947-48. Sugar production in South America was expected to total 3,151,000 tons in 1948-49, compared with 3,171,000 tons in 1947-48. The preliminary estimate of sugar output in the United States for 1948-49 was 1,850,000 short tons, compared with the 1947-49 output of 2,208,000 tons.

SULFUR. Heavy domestic and world demand for sulfur caused domestic producers to mine more than 4.8 million long tons in 1948 (1947: 4,441,214 tons), about 600,000 tons above total world estimated production in 1946. Apparent consumption by domestic and foreign consumers was higher than that of the record year 1947, 4,839,548 long tons. Mines in Texas produced the major share of this all-time-high output, the remainder coming mainly from Louisiana.

SUPREME COURT OF THE UNITED STATES. In 1948 the Supreme Court was composed of the following members: *Chief Justice*, Fred M. Vinson (1946); *Associate Justices*: Hugo L. Black (1937); Stanley Reed (1938); Felix Frankfurter (1939); William O. Douglas (1939); Frank Murphy (1940); Robert H. Jackson (1941); Wiley Rutledge (1943); Harold H. Burton (1945); *Associate Justice* (resigned), Owen J. Roberts (1930).

The dates used indicate the year which included nomination, confirmation, and entry upon duty. Under present law a justice who retires remains a "member of the Court."

The officers of the Supreme Court, in 1948, were: Clerk, Charles Elmore Cropley (1927); Marshal, Thomas E. Waggaman (1938); Reporter, Walter Wyatt (1946); Librarian, Helen Newman (1947). See **LAW**.

SURINAM (Netherlands Guiana). A colony on the northern coast of South America, belonging to the Netherlands. Area, 54,291 square miles. Population (1946), 203,580, including the Negroes and Indians living in the forests. Chief towns: Paramaribo (capital), 73,067 inhabitants, Nieuw Nickerie, 5,000, Albina, Coronie, and Moengo. Education (1945): 115 schools and 26,496 students. The principal agricultural products are sugar, rice, maize, coffee, cacao, balata, bananas, oranges, molasses, rum, and timber. Minerals produced include bauxite, gold, and salt. Trade (1946): imports 15,710,868 guilders; exports 11,513,612 guilders. Shipping (1946): 381 vessels of 747,128 register tons cleared. Finance (1947): revenue 9,207,000 guilders; expenditure 9,216,000 guilders. The executive authority and administration are under a governor, assisted by an advisory council. There is a representative body called the States of Surinam consisting of 15 members (5 appointed by the governor and 10 elected by the voters). Governor: Willem Huender.

SVALBARD (Spitsbergen). An arctic archipelago (10° to 35° E. and 74° to 81° N.) owned by Norway. The principal islands are West Spitsbergen (or Mainland), North East Land, Prince Charles Foreland, Edge Island, Barents Land, King Karl's Land,

Hope Island, and Bear Island (69 sq. mi.). Total area, 24,294 square miles. Population on Jan. 1, 1940, about 1,000. Green Harbor (capital), New Aalesund, Coles Bay, Longyearbyen, and Braganza Bay were the main settlements, all on the western coast of West Spitsbergen. Coal is the chief product (342,000 metric tons in 1947 and 429,600 in 1948).

SWAZILAND. A British protectorate in southern Africa, at the southeastern corner of the Transvaal. Area, 6,705 square miles. Population (1946 census): 186,880, including 183,362 Bantu natives, 2,871 Europeans, and 641 colored. Capital, Mbabane. Agriculture and cattle raising are important occupations of the people. Cotton, tobacco, maize, sorghums, pumpkins, groundnuts, beans, and sweet potatoes are the main agricultural products. Livestock (1947): 434,995 cattle, 25,865 sheep, 125,503 goats, and 7,769 pigs. Minerals produced included asbestos, tinstone, and gold. Swaziland is united with the Union of South Africa for customs purposes, and receives a proportionate share of the customs dues collected. The territory is administered by a resident commissioner acting for the High Commissioner for the British High Commission Territories in South Africa. Native chiefs continue to rule their tribes.

SWEDEN. A constitutional monarchy of Scandinavia. Capital, Stockholm. Sovereign, Gustav V, who succeeded to the throne on Dec. 8, 1907.

Area and Population. Area, 173,398 square miles. The estimated population, on July 1, 1947, was 6,803,000. Vital statistics (1947): birth rate, 18.9 per 1,000; death rate, 10.8; marriage rate, 8.6. Chief cities (with 1948 est. pop.): Stockholm, 703,000 (Greater Stockholm, 895,000); Gothenburg, 337,000; Malmö, 181,000.

Education and Religion. Education in the public elementary schools is free and compulsory. Children not attending schools under government supervision must furnish proof of having been privately educated. In 1944 the elementary schools had 519,302 students. The 203 secondary schools, in 1946, had a total of 63,826 students; in addition there were military, navigation, agriculture, veterinary, and other special schools. In 1946 the universities at Gothenburg, Lund, Stockholm, and Uppsala had a total of 9,122 students enrolled. The majority (90 percent) of the population adhere to the Lutheran Protestant Church. Protestant Dissenters, Roman Catholics, Jews, and some others make up the minority.

Production. Sweden's harvest of bread grains in 1948 amounted to about 950,000 tons. This is 75 percent more than in 1947, when the crops failed, but 12 percent less than the average. Livestock (1946 census): 2,869,429 cattle; 1,165,234 swine; 592,782 horses; 482,013 sheep; 9,055,916 chickens.

Mining is the leading industry of Sweden. Mineral and metallurgical output (in metric tons) during 1947 included: iron ore (for 1946), 6,867,000; pig iron, 718,800; steel ingots, 1,188,000. Other principal mineral and metallurgical products were ferro-alloys, manganese ore, tungsten, copper, zinc, aluminum, peat, and shale oil. Ball bearings, cream separators, lighthouse apparatus, telephone supplies, motors, and many kinds of electrical machinery are produced by the metallurgical industries.

The public forests cover approximately 7½ million hectares and yielded 7,961,000 cubic meters of timber in 1944. Value of sawmill production in 1945 was 432 million kronor, that of furniture fac-

tries 408 million kronor, and wood-pulp factories 433,450,000 kronor.

Fur production in 1946 totaled 71,011 pelts of several varieties of fox fur. At the end of 1947 there was a total of 200,000 gross tons of merchant shipping under construction in Swedish yards.

Foreign Trade. Sweden's imports in 1948 were valued at 4,876 million kronor (10 months actual, 2 months estimated), considerably less than the 1947 figure of 5,175 million. Exports for the same periods were 3,750 million and 3,220 million kronor, respectively.

Finance. Government revenue for 1948-49 was estimated at 4,769 million kronor in the budget presented to the Riksdag on Jan. 12, 1948. Expenditures were set at 4,230 million kronor. Total national debt on Sept. 30, 1947, amounted to 11,015 million kronor.

Transportation. The roads of Sweden, on July 1, 1947, totaled 50,100 miles. At the end of 1945 the railroads totaled 16,717 kilometres, of which 12,041 kilometres miles were owned by the state. Commercial airlines link the chief cities and maintain services, together with foreign companies, with nearby foreign countries. The Swedish mercantile marine, on July 1, 1947, comprised 2,078 ships aggregating 1,755,060 gross tons.

Government. The Constitution of 1809, as subsequently amended, vested executive power in a hereditary King, acting under the advice of a Council of State (Cabinet), which is responsible to the Diet or Riksdag. The Upper Chamber of the Riksdag has 150 members, one-eighth of whom are elected annually by provincial and city councils; the Lower Chamber has 230 members, elected by direct male and female suffrage for four years. Party strength in this House, as a result of the general election of Sept. 19, 1948 (see below, under *Events*): Social Democrats, 112; People's Party (Liberals), 57; Farmers' Union, 30; Conservatives, 22; Communists, 9. Prime Minister (appointed Oct. 10, 1946): Tage Erlander.

Events, 1948. "In the present situation, Great Britain appears to realize better than the faraway United States that a well-armed, neutral Sweden is a not entirely useless breakwater on the other side of the North Sea." With this commentary, the *Morgon Tidningen*, mouthpiece of the Erlander Government, sounded the keynote of Swedish policy in an editorial published in mid-October. By that time it had become clear that Sweden, unlike her Scandinavian neighbors, was relying on her armed strength and time-tested neutrality, rather than the protection of the Western European bloc or of the proposed Atlantic Union, to safeguard her freedom and independence in the event of a third world war.

For Sweden, the situation in 1948 was not much different from what it had been in the heyday of Hitler's power. By their national aspirations and ideological sympathies, the Swedes were unmistakably in the Western camp, yet at the same time they were uncomfortably aware of the overpowering nearness of a strong and ruthless neighbor, inclined to take umbrage at the slightest provocation. Under the circumstances the Swedes could hardly be blamed for putting their trust once again in absolute neutrality.

In the face of several fairly plain hints from the West that a Scandinavian defense pact, analogous to that of the five-power Western Union, was regarded as an indispensable prerequisite to western European security, Sweden stood her ground. She was ready to talk joint defenses with Denmark and Norway, but only on condition that there be no

tie-up with the military system sponsored by the United States and Britain.

This Swedish attitude found expression both in the preparatory talks leading to the establishment of the Scandinavian Defense Committee on October 15 (see also *Norway*) and in the subsequent deliberations of that body. The decision to form such a committee was made at a conference in Stockholm (September 8-9) of the Defense Ministers of Sweden, Norway, and Denmark. The Committee itself also held a series of meetings in Stockholm (November 15-17). While no communiqué was issued, it was officially stated that the delegates had reached an understanding of the three countries' strategic problems, which made for a clearer valuation of a defense cooperation.

Twice during the year, in March and in November, General Helge Jung, commander-in-chief of Sweden's armed forces, called for a strengthening of national defenses in view of the growing international tension. An additional defense appropriation of 205 million kronor for the purchase of new material, especially for the Air Corps, was submitted to the Riksdag late in April. In every branch of the armed forces, measures were taken to bring military preparedness up to, or even beyond, the levels maintained during World War II. Security regulations, especially in the strategic northern provinces, were tightened.

Count Folke Bernadotte, a nephew of the King, was appointed United Nations Mediator in Palestine on May 21, 1948. On September 17, upon his return to Palestine from Crete, he was assassinated in Jerusalem. (See also entry under *NEXT PAGE*.)

The General Election. On the domestic scene, the principal event of the year was a general election to the Second Chamber of the Riksdag, held on September 19. The very lively campaign centered around economic issues. In a determined attempt to end the alleged "economic misrule" of the Social Democrats, the three non-Communist opposition parties (Conservatives, Liberals or People's Party, and the Farmers' Union) banded together in one election bloc. This arrangement made it possible for the three parties to pool their votes when one of their candidates failed to secure a separate majority.

The combined onslaught failed, however, to attain its goal. While one of the opposition groups, the People's Party, scored an impressive victory, more than doubling its strength in the Riksdag, its gains were made for the most part at the expense of the partners in the election bloc. The Social Democrats did lose a good deal of votes to the opposition bloc as a whole, but they were able to recoup part of their losses by cutting heavily into Communist strength. The Communists' poor showing was due largely to the popular reaction against events in Czechoslovakia and Finland. The total vote was substantially higher than in 1944. Here are the detailed figures, with those for the preceding election (1944) shown in brackets:

Social Democrats: 1,701,957 votes and 112 seats [1,436,571 and 115]; People's Party: 814,123 votes and 57 seats [398,293 and 26]; Farmers' Union: 474,075 votes and 30 seats [421,094 and 35]; Conservatives: 448,308 votes and 22 seats [488,921 and 39]; Communists: 237,135 votes and 9 seats [318,466 and 15].

Although the Social Democrats retained a slight margin of control in the House—except in the unlikely event of a joint opposition vote including the Communists—Premier Erlander immediately after the election made a bid for Agrarian support. He offered to form a coalition government of his own

party and the Farmers' Union, but rejected the latter's proposal that the Liberals and Conservatives should also be included, as during the war. "To join formally in one Cabinet forces which strive at different directions, and therefore can be expected to neutralize each other, would mean to paralyze the power of action which today is so necessary in order to pursue a clear and determined economic policy," Erlander declared. As a result, the Farmers' Union, on October 18, declined to enter the Government. Thus the Social Democratic Cabinet remained in power, except for a minor reshuffle of portfolios on October 28. (Previously, on September 22, Minister of Trade Axel Gjoeres had been replaced by John Ericsson in a policy disagreement.)

The Economic Situation. Economic conditions showed signs of improvement during the year, with the outlook at the end of 1948 considerably better than it had been a year earlier. The dollar shortage continued, though somewhat less acute, and rigid import controls had to be maintained. Only bread was taken off the rationing list, early in October, while meat, fats, butter, sugar, coffee, and gasoline stayed on the list.

Industrial production was at a high level throughout the year. The export of iron ore, which had slumped after the war, increased substantially as both Western Germany and the Polish-Czech economic combine in Silesia contracted for new deliveries. By 1949, iron-ore shipments were expected to reach the 12 million-ton level again.

The drive to increase exports while restricting the importation of all but essential goods paid off during the year. In October, Sweden's foreign trade, for the first time since January 1946, showed a modest export surplus. For the year taken as a whole, there would still be an import surplus, which was expected, however, to be less than half that of 1947.

—JOACHIM JOESTEN

SWEDISH LITERATURE. On the whole, the year 1948 was an uneventful one on the Swedish book market. Few Swedish authors gave their very best; no new talent of real size appeared; the literary debate went on without raising remarkable issues or giving impressive answers. The situation in Sweden was rather like that in America, in England, in France, and in the other Scandinavian countries; the comparative meagerness of the Swedish crop is not surprising.

There were, however, in Sweden as in other countries, some exceptions from the universal rule. Harry Martinson published a volume called *Vägen till Klockrike* (The Way to Klockrike). Some of his work has previously been translated into English; he came to literature from the forecastles of many freighters and has written poetry and prose, both equally imaginative and expressive, about his experiences as a sailor, his poor childhood in southern Sweden, and about the Swedish landscape. This new book is a novel, and a good one. It is about a hobo, who chooses to be one, and what it feels like to be an outlaw; it is an amusing book but also a serious one, containing an abundance of fanciful ideas and descriptions of persons and places, but also a vision of peacefulness which has a quality of almost mystic sincerity. From the beginning of his career, Harry Martinson has belonged to the artistic frontiersmen of Swedish literature.

The other prose writer who published a really outstanding book this year arrived at her present position by way of the trial and error method. She is Stina Aronson, who during her 25 years as an

author has written numerous books in various styles. In her two latest works, *Hittom himlen* (This Side of Heaven), a novel; and *Sång till polstjärnan* (Chant to the Polar-Star), a collection of short stories in which she has used her experiences as the wife of a T.B. doctor in the Finnish-populated wilderness of northern Sweden. These two books are the first to describe these primitive souls with real insight; they also manage to reproduce the snowbound stillness of the country in a highly suggestive and remarkably artistic way.

If the year offered few literary top results, there appeared, however, an unusually large amount of serious, rather effective, and promising things; compared to the American book market, the proportion of pure entertainment is small. A choosy reader was able to find at least twenty prose books worth while; but it would be of little use to mobilize a company of names which an American reader had never heard of and probably never will hear of again.

Poetry. There was some good poetry published, especially in new volumes by Ragnar Bengtsson and Elsa Grave. The new Swedish poetry is written by people who are extremely well read in the works of their American, English, and French colleagues. The leading name in the whole phalanx is Erik Lindegren, a poet with several similarities to Dylan Thomas; in 1948 he started a new bimonthly, *Prisma*, which attempts to be a Swedish counterpart to *Horizon*. It pays great attention to developments abroad and has supplied the debate with valuable stuff. Finally, there appeared half a dozen first novels or collections of stories that seemed at least promising.

Non-fiction. In the field of non-fiction, there were several events worth noting. The comparatively young Strindberg expert Torsten Eklund wrote an immense and interesting book on Strindberg's peculiarities, observed from the viewpoint of an Adler student, and the old Strindberg expert Martin Lamm published a learned and readable exposé of modern drama from Scribe to Lorca. From a Marxist position, Per Olof Zennström explained Picasso in a way that could please readers of other denominations, too, and Oscar Reuterswärd published a study on Monet and the impressionists, which should be worth the attention of an international public. Sten Selander, poet and critic of Stockholm extraction, who is also a botanist of some standing, has spent his last forty summers in the high mountain area of western Lapland. His new book on that country, its landscape, flowers, and few inhabitants, is probably the best thing he has ever written. Herbert Tingsten, editor-in-chief of *Dagens Nyheter*, Sweden's largest, militantly liberal, and anti-isolationist newspaper, published a selection of his beliefs and dissections, *Argument*. He would remind an American reader of Parrington, Hayek, and Edmund Wilson (the critic).

Despite what has been said, there is, on the whole, no reason for book-minded Swedes to lament conditions. During the last ten years or so, there has been a remarkable increase in the interest in good books; and the impression of growing maturity was confirmed during the last year. The sales figures for valuable literature have risen considerably, while the interest in things of no consequence is on the downgrade.

Translations. Most American and English—and some German, French, and Italian—novels of importance are translated shortly after their publication in their home countries. Among translations which appeared in Sweden during 1948, and which aroused great interest, were Thomas Mann's

Doctor Faustus, T. S. Eliot's *Four Quartets*, Graham Greene's *The Heart of the Matter*, Edmund Wilson's *Memoirs of Hecate County*, Christopher Sykes' *Four Studies in Loyalty*, and Carlo Levi's *Christ Stopped at Eboli*. There were also quite a few new editions of the classics, including some minor American classics, which previously had been overlooked by Swedish publishers, among them Faulkner's *As I Lay Dying*, John O'Hara's *Appointment in Samarra*, and Eudora Welty's *A Curtain of Green*.

Reprints. Perhaps the most important feature of the book year, however, was the large amount of good books in cheap editions. Although the number of bookstores in Sweden is relatively much larger than that in America—and also the stores are much better stocked—there are naturally vast areas in the country where no books are available; and Sweden has no book clubs of the American type. During 1948, the 6½ million Swedes bought well over 2 million books in cheap editions, comparable for instance to Bantam Books, at a price of about 40 cents a copy; the main outlets were newsstands and tobacconists. This is much more than any previous year, and might be of great value for the education of a literary public in the future.

Awards. Sweden's largest and most coveted literary prize, awarded by *Samfundet De Nio* (The Society of Nine), went to Sigfrid Lindström, a poet and writer of philosophical *contes*, who has a small but fastidious and fanatical following.

—THORSTEN JONSSON

SWIMMING. Feats of American swimmers in the Olympics, when men and women from the United States scored the most impressive triumph in the history of the games, proved the high mark of the sport in 1948. As is customary in the aquatic sport, records tumbled so frequently that scorers had a hard time keeping in the swim.

A feature of the campaign was the comeback of Alan Ford, free-style star. Among the new world standards was Ford's mark of fifty-five and four-tenths seconds (0:55.4) for 100 meters. Ford also combined with his New Haven S.C. teammates, Edward Hueber, Frank Dooley, and Howard Johnson to establish relay marks of 3:23.8 for 400 yards and 3:48.6 for 400 meters.

Allen Stack of the New Haven S.C. established backstroke times of 1:04 for 100 meters and 5:03.9 for 400 meters, while Joe Verdeur of the Atlantic City Brighton-Drake S.C. continued his assault on breast-stroke records with a clocking of 2:14.7 for 200 yards and 2:30 for 200 meters. Michigan University's medley trio of Harry Holiday, Robert Sohl and Richard Weinberg clipped the 300-yard relay standard from 2:50.5 to 2:49.2.

Ohio State University's squad captured the national A.A.U. indoor championship, the outdoor team honors going to the Brighton-Drake S.C. The Crystal Plunge squad of San Francisco, led by comely Ann Curtis who later turned professional, swam away with team crowns in both women's national A.A.U. meets. Ohio State was dethroned by Michigan as National Collegiate Athletic Association ruler.

Men's national A.A.U. outdoor champions were: Robert Nugent, New York A.C., 100 meters free style; Ed Gilbert, Austin, Texas, 200; Jimmy McLane, New Haven S.C., 400 and 800; Jack Taylor, Firestone Club, Akron, Ohio, 1,500; Allen Stack, 100 back stroke; Joe Verdeur, 200 breast stroke and 300 medley; Brighton-Drake S.C., 300 medley relay; New Haven S.C., 800 free-style relay; Bruce

Harland, Ohio State, three and ten meter dives; Forbes Norris, Harvard, long distance; University Circle Y.M.C.A. of Cleveland, long distance team.

Senior indoor champions follow: Wally Ris, Iowa, 100-yard free style; Bill Smith, Ohio State, 220 and 440 free style; Allen Stack, 150 back stroke; Joe Verdeur, 220 breast stroke; Miller Anderson, Ohio State, one and three meter dives; Michigan, 300 medley relay; New Haven S.C., 400 relay.

Women's national A.A.U. outdoor title winners were: Ann Curtis, 100, 400, and 800 meter free style; Joan Mallory, Crystal Plunge, 1,500 free style; Sue Zimmermann, Multnomah A.C. Portland, Ore., 100 and 200 back stroke; Jeanne Wilson, Lake Shore A.C., Chicago, 100 and 200 breast stroke; Barbara Jensen, Athens A.C., Oakland, Calif., 300 medley; Los Angeles A.C., 300 medley relay; Crystal Plunge, 800 free style relay; Zoe Ann Olsen, Athens A.C., one and three meter dives; Jean Lutyena, Riviera Club, Indianapolis, long distance; Riviera Club, long distance team.

Women's A.A.U. indoor champions were Marie Corridon, Women's Swimming Association, New York, 100-yard free style; Sue Zimmerman, 100 and 200 back stroke; Carol Pence, St. Louis, 100 breast stroke; Ann Curtis, 220 and 440 free style; Clara Lamore, Providence, R.I., 220 breast stroke; Mrs. Nancy Merki Lees, Multnomah A.C., 300 medley; Multnomah A.C., 300 medley relay; Crystal Plunge, 400 free-style relay; Mrs. Victoria M. Draves, Los Angeles, one meter dive; Zoe Ann Olsen, three meter dive. See OLYMPIC GAMES.

—THOMAS V. HANLEY

SWITZERLAND. An independent Federal Republic in the center of Western Europe, bounded on the north by Germany, east by Austria and Liechtenstein, south by Italy, and west by France. Area: 15,944 square miles. Population (1948 est.): 4,588,000. Chief cities: Bern (capital), population 140,000; Zurich, 377,000; Basle, 178,000; Geneva, 146,000; Lausanne, 103,000. There are four national languages, German, French, Italian, and Romansch. German is spoken by 71.9 percent of the population and is the official language of the majority of the inhabitants in 19 cantons; French by 20.4 percent, the official language of 5 cantons; Italian by 6 percent, in the canton of Ticino, and Romansch by 1.1 percent, in the canton of Grisons. Vital statistics (1947): births, 87,724; deaths, 51,384; marriages 39,401.

Education. Primary school attendance is compulsory and free. There were 430,332 children attending primary schools, and 51,000 secondary schools in 1947. Commercial, technical and vocational schools form an important part of the educational system, and private schools have a high reputation. Seven cantons have their own universities—Basle, Bern, Fribourg, Geneva, Lausanne, Neuchâtel, and Zurich. Other institutes of higher learning include the Swiss Federal Institute of Technology in Zurich, and the Swiss School of Economics and Public Administration in St. Gall.

Religion. The population of the country includes 2,457,242 Protestants; 1,724,205 Catholics; 19,429 Jews. The Protestants are in a majority in 12 cantons, of which 9 are German and 3 are French-speaking; the Catholics in 10 cantons, of which 7 are German and 2 partly French, with one Italian-speaking.

Production. Dairying and stock raising prevail in the mountain regions, while crops are grown chiefly in the lowlands. In 1947 grain crops totaled 95.1 million Swiss francs; potatoes, 126.5 million Swiss

francs; vintage grapes, 130.0 million Swiss francs; fruits, 143.7 million Swiss francs; vegetables 165.2 million Swiss francs. The gross income from agricultural products in 1948 is estimated at 2,130.5 million Swiss francs. Livestock (1948 census): 142,085 horses, 1,424,113 cattle, 766,957 hogs. In 1947 the production of milk totaled 20,600 quintals. In the same year the vineyards yielded 880,907 hectoliters of wine. Machinery, textiles, clothing, chemicals, metals, and watchmaking are the main industries. Other manufactured products are foodstuffs, lumber, paper, and printing. In December, 1947, there were 11,215 factories, employing 520,806 workers. In September, 1948, the cost of living index was 163.2 (1939 = 100).

Foreign Trade. In 1948 Switzerland's imports were valued at 5,004 million Swiss francs; exports at 3,432 million francs. Principal exports (in millions of Swiss francs) were: machinery 648.6; instruments and apparatus, 203.4; watches and watch parts, 743.5; dyes, 269; pharmaceutical products, 210; chemical products 121.7.

Transportation. In 1947 the state owned 92 percent of the railroads, which comprised 1,767 miles of standard gage and 45 miles of narrow gage lines, 1,476 miles being electrified. The river port of Basle affords, through the River Rhine, a vital link with several seaports in northwestern Europe. In 1948, the freight handled in that port amounted to 2,779,266 tons. Switzerland's first merchant fleet which arose as a result of the war emergency in 1941 consists of 13 vessels (2 under construction) totaling approximately 40,000 dead weight tons. Swissair is the only civil aviation company operating international lines. Airports for the continental air traffic are located at Zurich, Basle, and Geneva. Geneva and Kloten, near Zurich, are the airports of inter-continental traffic.

Finance. According to the 1947 budget, revenue amounted to 812,932,000 Swiss francs; expenditure 803,925,000 Swiss francs. The main source of revenue is customs; defense the major item of expenditure. Customs receipts for 1947 amounted to 464,484,000 Swiss francs.

Government. The Swiss Confederation is a federal republic consisting of 22 Cantons, three of them being further sub-divided into half-cantons. Present Federal Constitution has been in force since May 29, 1874. It vests supreme authority in a bicameral Federal Assembly (Council of States and National Council), and a Federal Council (the executive authority). The Council of States has 44 members, two from each Canton and one from each half-canton, elected according to the legislation of each Canton. The National Council represents the people. Its members are elected for a period of four years, each representing 22,000 citizens. Every male citizen, upon his 20th year, may vote and is eligible for election; clergymen, however, cannot be deputies. Swiss representatives have great freedom of action since they are not bound to their party.

Bern is the seat of the Federal Council, the 7 members of which are elected every four years by the Federal Assembly (both chambers united). The President and Vice President of Switzerland are elected, for terms of one year only, by the Federal Assembly and they are the first magistrates of the Republic. The President has no special power. However, he presides over the Federal Council and represents Switzerland with foreign nations. President for 1949 is Ernest Nobs; Vice President, Max Petitpierre. The Federal Council may initiate legislation and its members may be present at the deliberation to defend the proposed measure; rejection of such measures does not lead to resigna-

tion of the Federal Council. On the other hand the Federal Council has no veto power over the measures approved by the Federal Assembly.

The cantons are autonomous states with jurisdiction in civil and criminal law, justice, police, public works, and education. Their own constitution is adapted to their needs and varies in form from the ancient institution of the citizens' assembly (Landsgemeinde) to the parliaments of the large cantons. Active participation by Swiss voters is by the initiative and the referendum. By federal initiative, 50,000 citizens may demand a direct public vote on questions or amendments of the Federal Constitution. By the right of referendum, 30,000 voters or 8 cantons can force the federal law to the plebiscite, even though this law may have been passed by both chambers. These two measures, the initiative and the referendum, are also granted by the cantons' constitutions and serve as checks against despotism and party rule.

Events, 1948. Swiss voters elected their representatives to the National Council (see *Government* above) and as a result of the election the standing of the various political parties is as follows: Progressive Democrats 51, Conservative Catholics 44, Socialists 49, peasants, artisans, and bourgeois 21, Landessing 9, Liberals 7, Democrats 5, Workers' Party (Communists) 7, without party affiliation 1. The Council of States consists of Progressive Democrats 11, Conservative Catholics 18, Socialists 5, peasants, artisans, and bourgeois 4, Liberals 2, Democrats 2, without party affiliation 2.

With the reservation not to enter into any engagements which are incompatible with her principle of traditional neutrality, Switzerland cooperates in the realization of the Marshall Plan. Switzerland's goal remains the most intensive development of her trade relations with as many countries as possible and she has during the past years granted credits to other nations to the amount of approximately 1,000 million Swiss francs.

Although Switzerland has not applied for membership in the United Nations, by reason of her strict neutrality, she was anxious to demonstrate her ardent desire for international collaboration in all the United Nations organizations which do not deal with political problems. Switzerland has a seat in the International Labor Organization, International Civil Aviation Organization, the Food and Agricultural Organization, the World Health Organization, the UNESCO, the International Telecommunications Union, the Universal Postal Union, the International Court of Justice. Switzerland is participating in the United Nations Conference on Trade and Employment in Geneva. She is also a member of the International Children's Emergency Fund and has taken an active part in the United Nations Appeal for Children. The Swiss Government contribution to this organization has amounted, in 1948, to \$1,609,317. Switzerland's share in the United Nations Appeal for Children is put at \$156,101.

—H. W. HIRS

SYRIA. An Arab republic with a short coastline on the northeastern corner of the Mediterranean. (See also ARAB LEAGUE AFFAIRS and PALESTINE.)

Area and Population. Area: 54,000 square miles of which 8,000 are cultivated and 8,000 more cultivable. Population: three million. Chief cities: Damascus (capital) with over 346,000 inhabitants; Aleppo, 337,700. The majority are Arabs (including 300,000 Beduin nomads) with Kurdish, Armenian, and Jewish minorities. The overwhelming proportion are Sunni Arabs with some other Moslem sects represented and an important minority of Christians divided into several sects.

Act, as amended, authorizes the President to direct the Tariff Commission to make an investigation of articles imported under conditions that interfere with agricultural support programs. Section 504 of the Philippine Trade Act of 1946 provides for investigation by the Tariff Commission as to limitations on certain imports.

The full Commission consists of six Commissioners, appointed by the President and confirmed by the Senate for terms of six years each, one term expiring each year. Not more than three Commissioners may be of the same political party. The Chairman and Vice Chairman are designated by the President annually from the members of the Commission.

The work of the Commission falls into two groups: (1) general administrative and auxiliary services under the Secretary; and (2) professional, scientific and technical work under the Planning and Reviewing Committee.

During 1948 the Commission issued several reports. These include: *The Operation of the Trade Agreements Program 1934-Apr. 1948*; *United States Import Duties, 1948 (rates)*; *The Import Quota on Long Staple Cotton (1948)*; and *Plastics Products*. Chairman: Oscar B. Ryder.

TAXATION. The year 1948 was featured by the passage of a new Revenue Act which provided the first substantial tax reduction in many years. The measure, which reduced the tax yield by about \$4,800 million, was strongly opposed by the Administration but was quickly passed over the President's veto.

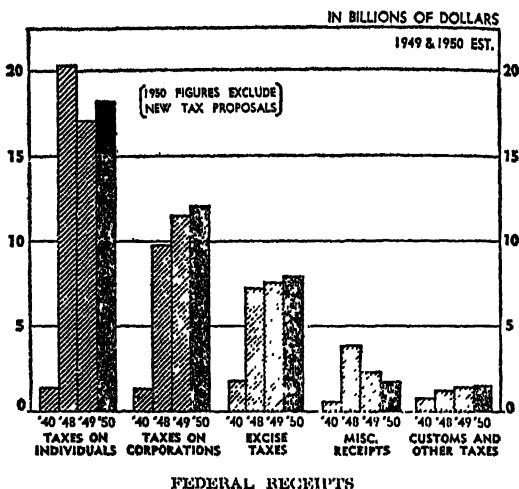
The Revenue Act of 1948. Despite the President's warning that the huge needs of the Government for national defense and other purposes made large-scale tax reduction inadvisable, Congress passed the Revenue Act of 1948 by overwhelming majorities. In the Senate the vote was 78 to 11 and in the House, 289 to 67. Approximately the same proportion of legislators voted to over-ride the President's veto, which was sent to Congress on April 2 and rejected within a matter of hours. Many Democrats elected to oppose the President's wishes by voting for the Republican-sponsored bill. The new lower taxes were made retroactive to Jan. 1, 1948, but the lower withholding taxes took effect May 1.

The new law provided income tax reductions of 12.6 percent on the first \$2,000 of taxable income, of 7.4 percent on incomes between \$2,000 and \$136,719, and 5 percent on all incomes above this figure. Personal exemptions were increased from \$500 to \$600, while an additional special \$600 exemption was given taxpayers over 65 years old and to blind persons. The standard deduction that may be taken in lieu of contributions, interest payments, etc., was increased to 10 percent of the gross income up to a maximum of \$1,000 from the former 5 percent and \$500 limit.

An important change was that permitting taxpayers in non-community property States to get split-income benefits by dividing in half the total taxable income of husband and wife and paying the surtax at the lower rates prevailing on the smaller incomes. By applying this provision to estate and gift taxes as well, these taxes were reduced by about 25 percent.

Under the new law the maximum total tax was set at 77 percent of the net income as compared with 85½ percent under the old law. The effective tax rate on an income of \$100,000 received by a married person with two dependents was reduced from 62.30 to 45.64 percent; on an income of \$10,-

000, from 18.62 to 13.61 percent, with corresponding reductions on intermediate incomes. Measuring the tax relief in another way, of the increment of income between \$90,000 and \$100,000 the individual was permitted to retain 36.75 percent under the new law as against 17.92 percent under the old; of the part of the income between \$20,000



and \$25,000 the taxpayer could keep 68.25 percent as against 47.37 percent. The over-all cut in individual taxes was estimated at \$4,774 million.

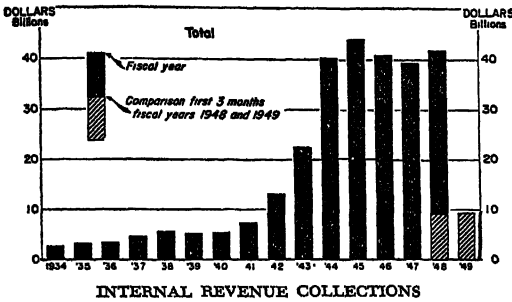
The Administration had opposed the tax reduction on the ground that it would eliminate most of the budget surplus and thus make it impossible to effect a further substantial reduction in the large public debt. Because the nation faced such heavy demands, it was pointed out, it was essential that receipts be kept at the highest possible level. Moreover, it was charged that the House bill distributed the tax relief inequitably and gave inadequate relief to the taxpayers with the lowest incomes.

Acknowledging the need for tax relief to offset in part the hardship caused to low income groups through the rapid rise in prices, the President recommended a straight tax credit of \$40 per capita. To make up the \$3,200 million loss that a cost-of-living adjustment would cause, he proposed that the excess-profits tax on corporations be reenacted, with some reductions from the 1945 rate. This tax, it was pointed out, would apply only to 22,000 corporations with the largest excess profits, out of a total of 360,000 taxable corporations.

In support of the tax cuts it was argued that, due to the large surplus, there was room for adequate defense and foreign aid programs and for tax reduction as well. In addition, it was asserted that maintenance of taxes at levels sufficiently high to produce a very large budget surplus weakened the incentive to reduce non-essential expenditures. It was claimed that individual tax rates were so high as to prevent saving and discourage business enterprise. Finally, it was pointed out that the existence of a substantial surplus made the time propitious to reduce the tax burden and relieve inequities in the tax structure.

On July 27, the President, among the measures he submitted to the special session of Congress called to combat inflation and to take up other matters left over from the regular session, again proposed the reestablishment of an excess-profits tax on corporations. No action, however, was taken on this proposal.

Internal Revenue Collections. During the fiscal year ending June 30, 1948, internal revenue collections of the Government totaled \$41,865 million, as



compared with \$39,108 million the year before. A large part of the increase was accounted for by individual income taxes, which amounted to \$20,998 million for the fiscal year. Taxes on corpora-

INTERNAL REVENUE COLLECTIONS
[Millions of dollars. Fiscal years ending June 30]

Tax	1947	1948
Individual income.....	\$19,843	\$20,998
Corporation income and profits.....	9,676	10,174
Old-age insurance.....	1,459	1,613
Unemployment insurance.....	186	209
Railroad retirement.....	380	560
Estate and gift.....	779	899
Liquor.....	2,475	2,255
Tobacco.....	1,288	1,300
Stamp.....	80	79
Manufacturers' and retailers' excise.....	1,940	2,119
Miscellaneous.....	1,552	1,659
Total.....	39,108	41,865

tion income and profits yielded \$10,174 million, a rise of \$498 million over 1947. Employment taxes totaled \$2,381 million, social security taxes making up more than three-fourths of this sum. Liquor taxes, primarily the \$9 per gallon tax on distilled liquors and the \$8 per barrel tax on beer, amounted to \$2,255 million.

Another important excise tax, that on tobacco, brought in \$1,300 million, the major component being the tax of \$3.50 per 1,000 cigarettes. Manufacturers' and retailers' excise taxes yielded \$2,119 million, the largest revenue coming from such items as gasoline, automobiles, and jewelry. Miscellaneous taxes on theater admissions, transportation, telephone service, and a number of other items brought in \$1,659 million.

The accompanying table shows collections by principal taxes for the fiscal years 1947 and 1948.

—SAMUEL S. SHIPMAN

TAX COURT OF THE UNITED STATES, The. An independent agency of the U.S. Government which adjudicates, after trial, controversies involving the existence of overpayments in income, excess profits, estate, gift and unjust enrichment taxes, and personal holding company surtaxes in cases where deficiencies have been determined by the Commissioner of Internal Revenue; similarly to adjudicate controversies relating to excess profits on Navy contracts and Army aircraft contracts, suits for refunds of processing taxes and for determination of the amount of excessive profits on war contracts in cases brought by contractors aggrieved by determinations made under the Renegotiation Act. Hearings are held at Washington and, for the convenience of taxpayers, at other places within the United States. Practice is limited to practitioners enrolled under the rules.

In cases arising under Section 721 (a) (2) (C)

and Section 722 of the Internal Revenue Code and those arising under the Renegotiation Act, the decisions of the Tax Court are final. All other decisions are subject to review by the United States Court of Appeals^a for the prescribed circuit, or, by agreement, by the United States Court of Appeals for the District of Columbia, and thereafter by the Supreme Court of the United States, upon the granting of a writ certiorari. Presiding Judge: Bolon B. Turner.

TEA. In 1948 the world's tea industry saw the war-born gap between supply and demand being gradually closed by increased production from areas which were not contributing to the market during the war and immediate postwar years. Although it is estimated that it will be a few years before prewar production is reached, good progress has been made in the rehabilitation of the tea estates of Java-Sumatra despite a chaotic political situation.

In 1947, the last year for which complete figures are available, India—the major supplier of tea to the consuming countries—reported the highest tea production on record, 592½ million lb. And 1947 tea production figures for Ceylon, the second most important tea exporting country, showed a 19 million lb. gain from 280 million to 299 million lb. Prospects for Pakistan production are also heartening. The comparatively new tea industry in British East Africa reported a rise from 30 million lb. in 1946 to 32 million lb. in 1947.

World supplies of tea climbed to 981 million lb. in 1947, compared to 941 million lb. in 1946.

UNITED STATES TEA IMPORTS BY KINDS^a
(Thousands of lb.)

	1945-6 ^b	1946-7 ^b	1947-48 ^b
Black Teas:			
India.....	52,271	45,019	31,077
Ceylon.....	42,063	33,455	33,099
Java-Sumatra.....	...	28	849
Blended.....	22	12	20
Congou.....	38	503	1,102
Japan.....	...	...	162
Formosa.....	...	171	3,016
Africa.....	...	...	3,796
Other.....	...	36	36
Total.....	94,394	79,224	73,157
Green Teas:			
India.....	...	...	...
Ceylon.....	...	...	...
Japan.....	...	7,515	2,999
Ping Suey.....	24	246	383
Country Green.....	7	623	12
Other.....	...	1	3
Total.....	31	8,385	3,397
Oolong Teas:			
Formosa.....	...	842	1,021
Canton.....	30	225	209
Other.....	13	55	56
Total.....	43	1,122	1,286
Mixed & various.....	...	1	5
Grand Total.....	94,468	88,732	77,845

^a Tea passed by the examiners for admission. ^b Years ended June 30.

These figures include total production in India, Ceylon, Pakistan, Java-Sumatra, and British East Africa, plus exports from all other producing countries. Actual production or consumption figures are not available for China, Japan, or Russia. Analyzing both production and consumption figures, in-

^a Public Law 773, enacted by the 80th Congress, 2nd Session, revising, etc. Title 28—Judiciary and Judicial Procedure—of the United States Code, in Section 43, changed the name of the United States Circuit Court of Appeals to United States Court of Appeals.

formed sources have estimated that by 1950 world consumption will be 1,095 million lb. and world production will be 1,115 million lb.

Hampering the return to prewar normalcy are continued labor shortages everywhere, spiral-rising production costs, and general political unrest. All these factors create grave problems. Higher costs and the imposition of export duties by their respective governments have inevitably lifted the world's price of tea, and United States retail prices have naturally reflected this trend.

During the war years, price controls kept United States tea prices at prewar level until October, 1946. With the dropping of governmental controls, the price of tea took a sharp increase in 1947. In 1948, prices edged up a little higher.

The United States continues to be the second largest importing country, behind the United Kingdom, the number one importer in the world. Among the importing countries, the United States is second in consumption and fourth among all the nations of the world. In 1948, a total of 83.8 million lb. of tea went into retail channels. This is 2 million lb. under 1947 figures but almost twice 1943's figures which marked the wartime's lowest ebb.

This 84 million lb., enough tea to make approximately 20,000 million cups, was supplied last year primarily by Ceylon, India, Africa, Formosa, Congou China, and Java-Sumatra, in their respective order of importance. Before the war and the resulting debilitation of tea estates, India, Ceylon, and Java-Sumatra were responsible for most of the black tea moving in world commerce.

—ANTHONY HYDE

TELEVISION. One of the youngest and fastest growing of American industries may be said to have come of age in 1948. Television began the year with less than 200,000 receivers in operation; manufacturers produced only 30,000 in January but in November 120,000 were produced. Max F. Balcolm, President of the Radio Manufacturers Association, estimated the year's total production at 850,000. The new medium was considered to account for one-third of the radio manufacturers' dollar volume of about \$700 million. At the end of the year about 50 stations were operating and 74 had construction permits. Two States levied taxes on receivers used for entertainment in public places.

This tremendous growth was made in spite of certain restrictions. The Federal Communications Commission decreed a "freeze" on September 30 on television station allocations and applications in order to permit studies of interference problems and spacing between stations. The number of channels available for broadcasting was reduced from 13 to 12, and the maximum number of channels assigned in any given area was limited to 7. Production of picture tubes was hampered by a shortage of glass blanks, but one manufacturer developed a tube using metal sides and a glass face.

In Canada television reception was limited to the Toronto-Hamilton-Windsor area where programs from the United States could be received. Further development was awaiting the approval of the Canadian Broadcasting Corporation, which deferred action pending completion of policy decisions on station licensing and use of government funds.

According to David Sarnoff, President of the Radio Corporation of America, television so appealed to the public that by the end of 1948 the industry was two years ahead of the dates set by the most optimistic forecasts made at the end of

the war. Television receivers were made available in a price range from less than \$150 to the thousands, with the average slightly more than \$300. The higher-priced models generally included reception of standard and frequency modulation radiobroadcasts, together with an automatic changer for playing phonograph records. Both direct-view and projection tubes were used, the largest diameter of the former being 20 inches. Projection systems beginning with screen sizes of 12 by 16 inches provide sizes beyond the largest practicable direct-view tubes.

Rapid progress was made toward the completion of a television network to parallel the existing transcontinental radiobroadcast network. Television requires a system capable of transmitting a wide band of frequencies, a requirement that has been met by coaxial cable and radio-relay systems which were developed primarily for long-distance telephone service. On September 20 a midwestern network was placed in commercial operation to join the cities of St. Louis, Mo.; Chicago, Ill.; Toledo, Ohio; Detroit, Mich.; Cleveland, Ohio; Buffalo, N.Y.; and Milwaukee, Wis. Service is furnished by coaxial cables except for the Toledo-Detroit and Chicago-Milwaukee links, where radio relays are used.

By the end of the year the joining of this network to the already operating eastern network which includes Boston, Mass., New York, N.Y., Philadelphia, Pa., Washington, D.C., and Richmond, Va., was imminent. Construction of a new radio-relay system was begun between New York and Chicago and eventually may provide additional channels for television. The relay systems operate on microwaves of a frequency approximating 4,000 megacycles per second.

Tests were continued on another method of extending television coverage to which the name "stratovision" has been given by its sponsors, the Westinghouse Electric Corporation and the Glenn L. Martin Company. Based on the premise that the range of high-frequency radio waves is limited by the distance from the antenna to the horizon and can be increased by raising the antenna, the system uses transmitters carried in airplanes cruising at an altitude of 30,000 ft.

A method for decreasing television station interference in areas where two stations are received on the same channel was tested between New York and Washington by the Radio Corporation of America. Known as television carrier synchronization, it limits interference to only the first minute of each 15-minute period while the transmitters are being synchronized. The range of effectiveness is believed to extend to about 65 miles from a transmitter. Engineers of the same company made a new study of radio frequencies above 500 megacycles as a medium for the expansion of television broadcasting.

Toward the end of the year manufacturers introduced some new features with the changeover to new models, and began a trend toward lower prices. The availability of a 16-inch tube with metal sides in particular was said to make receivers more adaptable to mass production, thereby lowering the cost. Receivers using the tube were priced tentatively at \$500 or less.

One manufacturer announced a new receiver in which the viewer, by means of a switch on a long cord, could enlarge a conventional 10-inch rectangular picture to a circular picture using the full face of a 12-inch tube, but with the loss of the "fringe areas" of the picture. The device permits the viewer to enlarge the picture for close-ups of

faces or specific scenes and return to the conventional size when the entire scene is desired, and is applicable to tubes of various sizes.

While demand for tubes for new receivers continued at a high level, a large market for replacements began to appear. Work also was begun on the installation of more than 1,200 receivers with 10-inch picture tubes and 5-channel selectivity in the 1,600-room Park Central Hotel in New York, said to be the first major hotel installation of television in every room or suite.

With the rapid expansion of television programs there were many "firsts." One was the celebration of the Christmas mass at midnight in St. Patrick's Cathedral in New York with Francis Cardinal Spellman, Archbishop of New York, officiating. The program was broadcast by the New York television transmitters of the American, Columbia, and National broadcasting systems. A major television broadcast that required considerable advance planning and arrangement of technical details was the coverage of the national conventions of the Republican and Democratic Parties, both of which were held in Philadelphia. Additional channels were added to the existing television network, and the program was distributed to Baltimore, Md., and Newark, N.J., in addition to Richmond, Washington, New York, and Boston.

As the year ended, a United States court decision was near on an anti-trust action begun in 1945 based on the restriction of the use of patents and processes of Scophony Ltd. of London, England. The patents cover a method of television reproduction completely different from the cathode-ray tube method commonly used in the United States.

—G. ROSS HENNINGER

TENNESSEE. An east south central State. Area: 42,246 sq. mi. Population: (July 1, 1948) 3,149,000, compared with (1940 census) 2,915,841. Chief cities: Nashville (capital), 167,402 inhabitants in 1940; Memphis, 292,942. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$127,967,000; total expenditure, \$123,700,000.

Elections. Truman won a plurality of about 67,000 over Dewey. Thurmond ran about 197,000 behind Truman. Of the 12 electoral votes, 11 went to Truman and 1 to Thurmond. In the Senate race, Congressman Estes Kefauver, Democrat, beat Republican Carroll Reece. The 10 House seats remained as before—8 Democrat, 2 Republican. Gordon Browning, Democrat, Governor in 1937, won the gubernatorial contest. No other statewide officers are popularly elected.

Officers, 1948. Governor, Jim Nance McCord; Lieut. Governor, None; Secretary of State, Joe C. Carr; Attorney General, Roy H. Beeler; State Treasurer, C. C. Wallace; State Comptroller, Jared Mad-dux.

TENNESSEE VALLEY AUTHORITY (TVA). An independent corporate agency of the United States Government created by Congress in 1933 to provide for the unified development of all the resources of the 40,910-square-mile watershed of the Tennessee River and its tributaries. Development of the Valley includes control of the Tennessee River for navigation, flood control and power production; soil and forest conservation; agricultural and industrial development, and national defense. The area contains portions of 7 southern States—Alabama, Georgia, Kentucky, Mississippi, North Caro-

lina, Tennessee, and Virginia—and supports a population of approximately three million. Wilson Dam and the World War I nitrate plants at Muscle Shoals in northern Alabama were transferred to TVA in 1933. The system of 26 dams includes 16 constructed by TVA, 5 acquired by transfer and purchase and 5 privately owned projects operated as a part of the system under contractual agreement. Two dams, the Watauga and South Holston projects, are now under construction in upper East Tennessee. Closure of Watauga Dam was effected and storage of water begun Dec. 1, 1948, and the South Holston Dam is scheduled for completion late in 1950.

The complete reservoir system is estimated to be capable of reducing Mississippi River flood peaks at Cairo, Ill., by 2.5 to 3 feet. TVA engineers estimate the average annual direct benefits from TVA flood control operations to amount to almost six million dollars in the lower Ohio and Mississippi Valleys, in addition to about five million dollars in the Tennessee Valley.

A 630-mile channel for nine-foot navigation is now complete from Knoxville, Tenn., to the mouth of the Tennessee at Paducah, Ky., making the Tennessee a part of the nation's 6,000-mile interconnected inland waterway system. River traffic increased from 33 million ton-miles in 1933 to more than 400 million ton-miles in 1948, with particular gains in the movement of petroleum products, grain, automobiles, and coal.

The Muscle Shoals plant, supplying phosphorous, ammonium nitrate, and calcium carbide for war, in peacetime produces improved high analysis phosphatic fertilizers used in test-demonstrations by practical farmers in 26 states. TVA's power system now produces 15,000 million kilowatt-hours of electricity annually—the largest single integrated system in the United States. Power is sold at wholesale to 141 municipalities and rural cooperatives (reaching more than 850,000 consumers) and to some large industrial customers. Unique features of TVA are location of the principal offices in the region rather than in the national capital, and the widespread participation of Tennessee Valley people and institutions in the program. TVA is headed by a board of three directors. Chairman Gordon R. Clapp and Director James P. Pope are the present members. The third position on the Board is vacant.

TENNIS. American tennis stars maintained their hold on the major prizes, retaining both the Davis and Wightman Cups, symbols of world supremacy.

Meeting Australia in the challenge round at Forest Hills in September, the United States men triumphed by 5-0. Ted Schroeder of La Crescenta, Calif., defeated Adrian Quist, 6-3, 4-6, 6-0, 6-0, and Billy Sidwell, 6-2, 6-1, 6-1, while Frank Parker of Los Angeles, Calif., conquered Sidwell, 6-4, 6-4, 6-4, and Quist, 6-2, 6-2, 6-3, in singles matches. Billy Talbert of New York and Gardner Mulloy of Miami, Fla., annexed the doubles by halting Sidwell and Colin Long, 8-6, 9-7, 2-6, 7-5.

United States women defeated their British sisters, 6-1, to keep the Wightman Cup. Louise Brough of Beverly Hills, Calif., set back Mrs. Betty Hilton, 6-1, 6-1, and Mrs. Jean Bostock, 6-2, 4-6, 7-5; Doris Hart of Miami subdued Joy Gannon, 6-1, 6-4; Mrs. Margaret Osborne duPont of Wilmington, Del., defeated Mrs. Bostock, 6-4, 8-6, and Mrs. Hilton, 6-3, 6-4. In the doubles, Mrs. Molly Blair and Mrs. Bostock won from Miss Hart and Mrs. Patricia Canning Todd of La Jolla, Calif.,

6-3, 6-4, for England's lone win, while Miss Brough and Mrs. duPont beat Mrs. Hilton and Mrs. Kay Stammers Menzies, 6-2, 6-2.

The national championships followed the Davis Cup matches in September at Forest Hills and a comparative unknown, 20-year-old Richard (Pancho) Gonzales of Los Angeles, battled his way to the throne left vacant when Jack Kramer joined the pro ranks in 1947. One of the youngest players ever to win the title, the promising coast star vanquished Eric Sturgess of South Africa, 6-2, 6-3, 14-12, in the final. Mrs. duPont crowned years of effort in the women's singles by upsetting Miss Brough, defending champion and winner at Wimbledon, 4-6, 6-4, 15-13. The mixed doubles honors went to Miss Brough and Tom Brown of San Francisco.

In the national doubles at Brookline, Mass., Mulloy and Talbert won the men's title and Miss Brough and Mrs. duPont retained the women's laurels.

Talbert also added the U.S. indoor title to his collection in the March tourney in New York, the women's crown going to Mrs. Todd. Jean Borotra and Marcel Bernard of France won the men's doubles while Talbert and Miss Hart took the mixed doubles.

The Wimbledon championship in July saw Bob Falkenburg of Hollywood, Calif., win the men's singles, but only after a battle with Bromwich that ended at 7-5, 0-6, 6-2, 3-6, 7-5. Miss Brough shared three crowns, winning the singles, the doubles with Mrs. duPont and the mixed doubles with Bromwich. Bromwich and Frank Sedgman, brilliant Australian, triumphed in the men's doubles.

Title winners in the French international tourney were Parker, singles; Jaroslav Drobny of Czechoslovakia and Lennart Bergelin, Sweden, doubles; Mrs. Nell Landry, France, women's singles; Mrs. Todd and Miss Hart, women's doubles, and Mrs. Todd and Drobny, mixed doubles.

Singles winners in some of the other major tournaments follow: Parker and Mrs. Todd, Belgian; Bromwich and Miss Hart, New South Wales; Bill Tully of Bronxville, N.Y., Canadian; Sturgess and Mrs. Todd, Argentina; Drobny and Mrs. Sheila Summers of South Africa, Pan American; Talbert and Miss Hart, Bermuda; Schroeder and Miss Gertrude Moran of Santa Monica, Calif., national hard-court; George Stewart of Panama and Althea Gibson of Wilmington, N.C., American (Negro) Tennis Association.

Professional racquet-swingers capped a big campaign with the world championships at Forest Hills in June, when Kramer turned back Robert L. Riggs of Altadena, Calif., 14-12, 6-2, 3-6, 6-3, in the final. Kramer, ranked as the No. 1 pro, added another title when he and Francisco Segura of Ecuador defeated Riggs and Don Budge, defenders, 4-6, 5-7, 6-2, 7-5, 8-6, in the doubles.

—THOMAS V. HANEY

TEXAS. A west south central State. Area: 265,896 sq. mi. Population: (July 1, 1948) 7,230,000, compared with (1940 census) 6,414,824. Chief cities: Austin (capital), 87,930 inhabitants in 1940; Houston, 384,514. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended August 31, 1946, total revenue amounted to \$304,285,000; total expenditure, \$272,250,000.

Elections. Truman won a majority over Dewey, Thurmond, Wallace and other candidates, and carried the 23 electoral votes. Democratic Congress-

man Lyndon B. Johnson won the Senate race. Democrats were reelected to all State offices, including: Governor—Beauford H. Jester; Lieutenant Governor—Allan Shivers; Attorney General—Price Daniel; Comptroller—George H. Sheppard; Treasurer—Jesse James; Land Commissioner—Bascom Giles; Superintendent of Public Instruction—L. A. Woods. Proposals popularly approved abolish the State-levied property tax; provide for the succession when the governor-elect dies; and provide for automatic reapportionment of the legislature.

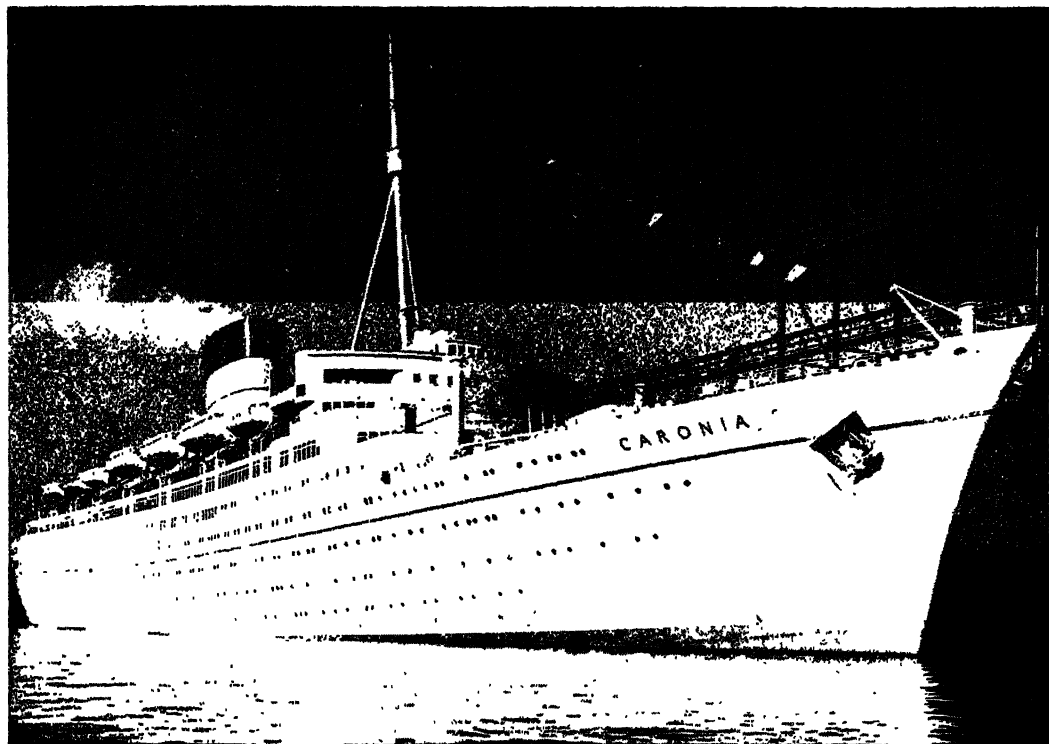
Officers, 1948. Governor, Beauford H. Jester; Lieut. Governor, Allan Shivers; Secretary of State, Paul Brown; Attorney General, Price Daniel; State Treasurer, Jesse James; State Auditor, C. H. Cavness; Comptroller, George H. Sheppard.

TEXTILE FOUNDATION, Inc. This Foundation was created by the U.S. Congress in 1930 to engage in Economic and Scientific Research for the benefit of the textile industries and their allied branches, including raw materials. It operates with private funds. Over 25 research workers in Foundation Laboratories at Princeton, N.J., are engaged on fundamental research problems related to textiles and textile products, including projects for the U.S. Navy, Signal Corps, and Q.M.C. The Foundation also engages in economic research such as studies of marketing, management, textile education, etc. It is managed by 5 directors (the Secretary of Agriculture, the Secretary of Commerce, and 3 others appointed by the President of the United States).

TEXTILES. The volume in lb. of textile production in 1948 was 1.59 percent above 1947 and was exactly the average of the 8 high-level years 1941-1948. These 8 years are actually 60 percent above the average for the 8 preceding years, 1933-1940. The excellence of 1948 as a whole in textiles is sometimes forgotten by those who remember principally its last few months when there were price declines, curtailment, and compressed profit margins.

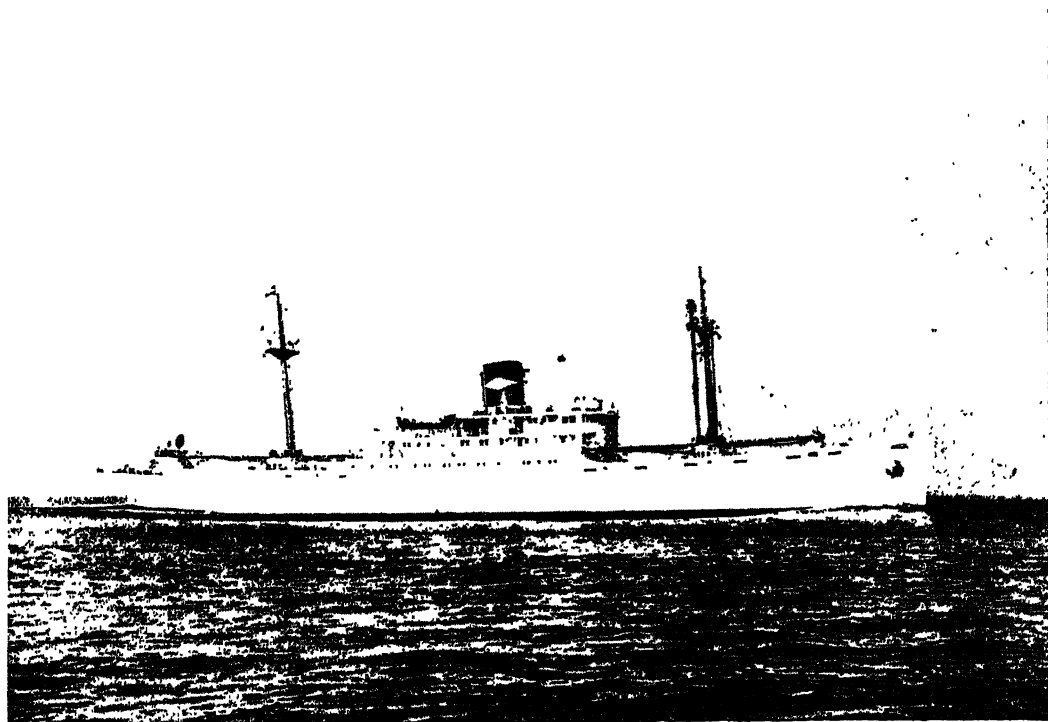
The year was probably the greatest ever experienced in the category of expenditure for expansion, modernization, and renovation of textile mills with reliable estimates of the figure running in excess of \$500 million. This was nearly 20 percent over 1947's \$414 million. The similar figure for 1946 approximated \$300 million and for 1945, \$200 million. Despite the fact that, with late 1948, competition returned to textile markets as a whole—or perhaps because of that, projected capital expenditures by textile mills for 1949 are estimated at close to \$450 million or a near duplication of 1948. These great capital investments come largely from profits rather than from borrowings, and have been stimulated by the urge to mechanize every process to the utmost and to reduce the burden of labor cost per unit of product to the minimum. Such modernization is one of the recognized means for giving hope of company survival in the era of keen competition which apparently is now near at hand.

Because of management readiness to buy any machinery or equipment which by its savings would pay for itself in a short time, machinery makers have continued their introduction of new and improved devices at a steadily increasing pace. The year saw the introduction of new looms, new wool preparatory machines, improved cotton combs, and substantial developments in tensionless finishing with the object of reducing the residual shrinkage in the finished fabric.



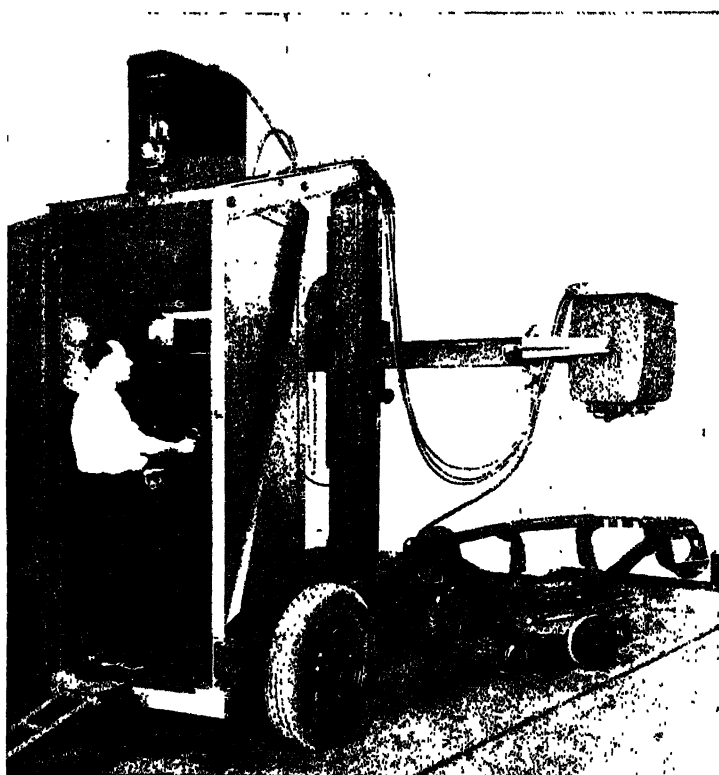
Courtesy Cunard White Star

CARONIA, the world's largest postwar liner, was completed during 1948. Built by John Brown & Company of Clydebank, Scotland, the over-all length of the *Caronia* is 715 feet, breadth moulded, 91 feet, draught moulded, 30 feet. The gross tonnage is approximately 34,000. Propulsion is by twin screw triple expansion impulse reaction turbines.



Courtesy of United Fruit Company

S.S. YAQUE, completed in 1948 for the United Fruit Company, has an over-all length of 386 feet, displacement of 9,338 tons, and a speed of 16 knots. There are cabins for 12 passengers. She has 197,000 cu. ft. of refrigerated cargo space.



A MOBILE X-RAY MACHINE of 250,000-volt capacity is built for the laboratories of the Pennsylvania Railroad at Altoona, Pa. The unit is shown in operation examining the interior structure of the high-tensile steel used in a side frame for a high speed freight car truck. Such internal defects as concealed cracks and imperfectly welded joints are revealed clearly by this technique, which grew out of rapid wartime technical progress in the field of radiographic testing of metals. The entire unit is mounted on wheels so that it may be moved about the laboratory building or, when it is necessary, to a considerable distance away.

A MOBILE NEWSREEL THEATER is installed in a luxurious recreation car on the Pennsylvania Railroad's all-coach streamliner *The Jeffersonian*, operating on the run between New York and St. Louis. The photograph shows the theater's full capacity--six persons.

Pennsylvania Railroad Photos



Wide World Photo

TRUMAN WINS. The upset of 1948 was President Truman's victory at the polls on Nov. 2, 1948. Here the victorious President smiles and waves as he greets a crowd outside his Kansas City hotel just after Governor Thomas E. Dewey conceded the Presidential election during the morning of November 3d.



GOVERNOR THOMAS E. DEWEY and Mrs. Dewey, about to cast their votes at the polling booth in the election of Nov. 2, 1948, in which Governor Dewey was defeated by President Truman for the office of President of the United States.



▼ PROGRESSIVE PARTY RALLY. An assemblage of 19,000 people congregates in Madison Square Garden, New York City, to hear Progressive Party Presidential candidate Henry Wallace.
European Photos





Photo from European

GEN. DWIGHT EISENHOWER, President of Columbia University, meets the alumni at Baker Field, New York, before the Columbia-Pennsylvania football game. He is shown putting on a necktie made up of the colors of Columbia.

▼ **LEAP TO FREEDOM.** A school-teacher's leap to freedom at the U.S.S.R. Consulate in New York, Aug. 12, 1948. Consulate workers lift the seriously injured Mrs. Oksana Kosenkina, Russian teacher, who leaped from the third floor window in an effort to gain her freedom and thus escape being returned to the U.S.S.R.

Wide World Photo



TABLE 1—INDEX OF TEXTILE ACTIVITY

Year	Index	Year	Index	Year	Index
1939.....	100	1943.....	142	1946 ..	142
1941.....	142	1944.....	134	1947.....	138
1942.....	150	1945.....	131	1948.....	140

Textile activity based on total consumption of the chief fibers—cotton, rayon, and wool—was close to equaling the big years of 1941, 1943, and 1946. It was greater than in 1944, 1945, and 1947 and below the all-time high year of 1942 by only 6½ percent (see Table 1). Production of various types of textiles in 1948 compared with 1947 as follows: cotton broad woven goods, 5 percent less; woolen and worsted fabrics, 3 percent more; rayon broad-woven fabrics, 14 percent more; synthetic filament and staple, 14½ percent more; hosiery, 2½ percent less.

A prime reason for the lessening of cotton goods production in 1948 and for the price weakness in the latter half of the year was the falling off by about 42 percent of the previously large exports which had reached a record high of nearly 1,500 million yards in 1947. Since there is no immediate expectation of export revival, 1949 will have to progress without this supporting influence. Con-

TABLE 2—PRODUCTION OF COTTON AND WOOL GOODS

Year	Cotton broad woven goods (square yards)	Woolen and worsted fabrics (square yards)
1939.....	482,000,000	444,000,000
1940.....	(not given)	444,000,000
1941.....	10,432,000,000	650,000,000
1942.....	11,108,000,000	685,000,000
1943.....	10,568,000,000	661,000,000
1944.....	9,536,000,000	658,000,000
1945.....	8,724,000,000	608,000,000
1946.....	9,144,000,000	645,000,000
1947.....	9,808,000,000	555,000,000
1948.....	9,500,000,000*	560,000,000*

* Estimated.

tributing causes of export decline were scarcity of dollar exchange among consuming nations and rapid rehabilitation of war-damaged mills abroad and growth of wholly new industries in previously agricultural nations. However, yardage production of cotton and wool goods in 1948 compares favorably with recent years (see Table 2).

The average number of wage earners in the textile industry during 1948 was 1,275,000 which was 2½ percent above the 1947 figure of 1,244,000. The average, however, does not disclose the high point of 1,312,000 in March; nor does it include the 1,150,000 persons employed in the apparel manufacturing industry. Average hourly earnings in the textile industry closed the year near \$1.18 which is 14 percent above the 1947 average and 134 percent over 1939. The average hourly rate

TABLE 3—INDICES OF TEXTILE-MILL EMPLOYMENT

Year	Em- ployees	Pay- rolls	Year	Em- ployees	Pay- rolls
1939.....	100	100	1944.....	99	175
1940.....	98	101	1945.....	94	174
1941.....	112	186	1946.....	104	179
1942.....	112	163	1947.....	108	250
1943.....	107	177	1948.....	111*	290*

* Estimated.

for 1948 was about \$1.15. Average weekly earnings in 1948 were about \$45.04, which was about 10 percent over 1947. Rates in the three main branches of the industry indicate that workers in wool mills earn the most, with rayon and silk mill employees next, followed by cotton mill workers. The hourly rates near the close of 1948 were \$1.31, \$1.18, and \$1.10 respectively (see Table 3).

Prices and Production. Wholesale prices for all textiles passed the point at which they doubled the 1935-39 average late in 1947. The high point came in April, 1948, when prices were 111 percent over that base period. At the end of 1948, this average had declined again to the "double point," or about 101 percent over 1935-39. Previous to April, 1948, the rise had been virtually continuous with only slight interruptions since 1939 (see Table 4).

TABLE 4—INDICES OF WHOLESALE PRICES

(Adapted from *Rayon Organon*)

Year	All Textiles	Cotton woven fabrics	Woolens and worsted	Hosiery and underwear	Rayon yarn and staple fiber
1935-39.....	100	100	100	100	100
1940.....	104	94	106	101	96
1941.....	120	123	119	102	97
1942.....	136	148	135	113	98
1943.....	137	148	138	114	98
1944.....	139	152	138	114	98
1945.....	141	159	138	115	98
1946.....	164	198	140	132	99
1947 ..	199	262	160	162	120
1948....	210*	277*	181*	170*	133*

* Estimated.

Cotton goods show the greatest percentage rise, averaging in 1948 177 percent over 1935-39; wool goods were up only 81 percent; hosiery and underwear, 70 percent; rayon filament and staple, 33 percent. Cotton goods, perhaps because of their greatest advance, were the first to succumb to readjustment in the second half of 1948. Prices on the more important gray goods constructions declined 20 to 30 percent from the peak in the first half of 1948 to the valley near the end of that year. Making this decline possible without elimination of all profit, a decline in raw cotton prices brought the fiber down from about 37 cents to 31 cents, or about 16 percent off. Labor rates, however, went up 5 percent in the same period.

Wool goods were slightly higher from the mill in the fall of 1948 than in the spring, a change induced almost wholly by the sharp rise in raw wool prices in Australia forced by unexpectedly large raw-wool buying there by the U.S.S.R., and by continuing decline in the size of the United States domestic wool clip. Retail prices on wool products were weak as the year closed. Hosiery and underwear prices were shaded as the year progressed, but the primary rayon market was firm with small advances.

Economists believe that the readjustments of 1948 will steer textiles into a fairly steady period both as to prices and demand for the first part of 1949—after that, domestic labor and tax legislation and foreign developments will be the governing factors for gain or loss. Textile inventories as reported for 1948 touched the highest figures in the war and postwar years, but it should be remembered that these figures are in dollars. With textile

TABLE 5—INDEX OF TEXTILE INVENTORIES

(Adapted from *Rayon Organon*)

Year	Inven- tories	Year	Inven- tories	Year	Inven- tories
1939.....	100	1943.....	141	1946.....	199
1941.....	131	1944.....	142	1947.....	224
1942.....	157	1945.....	152	1948.....	237*

* Estimated.

inventories at an index number of 257 for 1948 (see Table 5) and textile prices at 210, it is obvious that stocks in physical volume are only slightly (about 20 percent) above 1939, the base year.

Among various trends which continued through 1948 on an important scale was the growth in pro-

duction and use of synthetic fibers. Rayon filament and staple for the first time passed the 1,000 million lb. mark in annual production recording 1,100 million lb., divided into 834 million lb. of filament and 266 million lb. of staple. Of this rayon, viscose process (plus a small amount of cupra process) accounted for 66 percent of the filament and 68 percent of the staple, acetate process rayon accounting for the remainder. The total figure for 1948 marks a gain of 16 percent over 1947 and is double the 1938 output. Unless considerable new capacity comes to view in 1949, and which is not in sight as the year begins, the gain of rayon output in the United States in 1949 will be relatively small.

Synthetics, other than rayon, including nylon, saran, Vinyon, Velon, Fiberglas, etc. have also been growing. Although there is no authoritative figure for production of these fibers, it is probable that they barely pass an 80 million lb. total, with nylon and Fiberglas being the most important. Among the new fibers introduced in 1948 are Orlon, the DuPont development which has properties that lie between rayon and nylon, and a new group of Vinyons made by Carbide & Carbon Chemicals Corporation which seem at present to have more important industrial than apparel uses.

New Machines and Technology. Among the new machines made available to the industry in 1948 are several notable looms. The Kellogg loom is a conventional bobbin-changing type, with pressed steel replacing castings in its frame, ball or roller bearings throughout, unit-assembly design of the major loom motions, and a speed said to be 20 to 30 percent higher than similar previous types. The Warner & Swasey loom, based on a Sulzer Swiss design, has a new system of filling insertion which does away with conventional shuttles, picker sticks, bobbins, etc.; makes single-width or multiple-width fabrics up to or totaling 110 inches; has speed in excess of 215 picks per minute which is equivalent to 430 picks on 54-inch goods, a rate hitherto unachieved.

The Baker loom for woollens and worsteds is a conventional type with many engineering improvements. Two circular looms came out of France—the Fayolle-Ancet, said to produce 15 sq. yd. of cloth per hour, and the Saint Frères, designed for tubular jute bagging but said to be adaptable for cotton, rayon, and wool.

A machine for direct conversion of rayon tow into sliver, with or without blending with other fibers, was offered by the Warner & Swasey Company on Pacific Mills design. Saco-Lowell Shops offered a direct spinner which will produce spun yarn directly from synthetic fiber tow. A new woolen card of European design was offered by Duesberg-Bosson. A new and much improved cotton comber was introduced by Whitin Machine Works. A new method of spinning into a cup with the winding achieved centrifugally was designed by Prince-Smith & Stells, Ltd., of England. In rayon manufacture the swing toward continuous spinning processes was further advanced by the Nelson process developed in England and the Filamatic process of American Viscose Corporation.

Knitting techniques advanced principally through the introduction of high-speed multi-feed machines which have immense production rates going up to as high as 125 yd. per hour of 60 inch jersey. The Redman shrinking machine for tubular knit goods was put on the market after three years of development. It removes relaxation shrinkage to the point where the product can be guaranteed to have not over 5 percent residual shrinkage.

For finishing woven goods the Rodney Hunt Ma-

chine Company offered a group of machines with the Tensitrol principle which permits high-speed, tensionless processing. Stainless-steel has come to be the standard material for most dye vats, washers, etc. Continuous-range finishing continued to develop, and the problem shifted during the year from the mere design of ranges to the engineering of the most efficient means of operating them. Printing has been speeded up with smoother-running rotary machines and mechanized screen printers.

In the wool field solvent scouring of wool, in place of caustic baths and washing, gives promise of increasing acceptance. One mill has carried on this process alone for nearly 12 years, but the broadening interest at present is due to high cost of soap, Government drives against stream pollution by wool-scouring wastes, and the desire for economical recovery of the lanolin removed from the wool. Experimentation looking toward continuous dyeing of wool goods has been in progress, but little acceptance of such processes has been gained. Shrink-proofing and moth-proofing of wool made great progress in acceptance during 1948, and these finishes are at last appearing in retail offerings to the consumer.

Research in textiles was still on the up-curve during 1948. Numerous new laboratory machines and devices for testing and recording were introduced and early experiments made in textiles with radio-active isotopes from the atomic pile at Oak Ridge. Fibers, finishes, machines, and techniques are all under experimentation in the various research centers. In particular, there is interest in a wool project initiated in 1948 which is aimed at improving the drape, feel, and other properties of medium and coarser wools now somewhat neglected in favor of fine wools, so that they can be used to augment the supplies of fine wools now relatively high in price because short in supply.

—WILLIAM B. DALL

THEATER. Animation and variety characterized the New York theatrical season of 1948. Healthy critical and public controversy intensified interest in plays by Tennessee Williams and Maxwell Anderson. Tallulah Bankhead, extreme individualist, precipitated discussion on the nature of acting. Musical comedy, throwing off the shackles of convention, took on new life with modest productions like *Small Wonder* and *Lord an Ear*. As a whole, thanks to importations like *Edward, My Son*, *Red Gloves*, and *The Mad Woman of Chaillot*, the New York stage represented the best current works of the Continent.

Anne of the Thousand Days. As a dramatist, Maxwell Anderson demonstrated again that he can no longer write a suspenseful play, and his effort to combine prose and poetry resulted in grandiloquence rather than powerful dialogue. Otherwise, his presentation of Henry VIII was so comprehensive and real that he compelled attention through scattered episodes while wooing, winning, and murdering an Anne who seemed a bit too lofty for historic confirmation.

As the Girls Go. Low comedy at its lowest and best was what Bobby Clark dispensed at the Winter Garden. Repetitious, as usual, and unrestrained in his consideration of manners and morals, Bobby made Michael Todd's comeback a box office success. Irene Rich, also effecting a comeback, made an attractive and deft lady president. The beautiful girls in the old Ziegfeld revue tradition were emphasized as a drawing-card, and luckily, because the singing, songs, comedy, and scenery were only negligible assets.

Bravo. Edna Ferber and George Kaufmann, authors of *The Royal Family*, turned out a dud. Immersed in a plethora of amateur talk about players and playwrights, an earnest plea for the fair treatment of refugees sank, hopelessly.

The Cup of Trembling. For those who follow, thirstily, the case histories of Alcoholics Anonymous, this play, written by Louis Paul from his novel, *Breakdown*, was brim-full of interest. Others pushed the cup aside, and the more quickly because of Elizabeth Bergner's precious artistry.

Don't Listen, Ladies. Artificial comedy rarely pleases an American audience, for it is seldom content to follow dialogue for the sake of dialogue. "Too talky" was the customary criticism.

Edward, My Son. One of the biggest hits of the season, imported from England with the original stars, Robert Morley, co-author, and Peggy Ashcroft. These two managed handsomely to cover the life span of the two leading characters by way of episodes which seemed much more substantial than they really were. Novelty, surprise, contrasting scenes, and a trick titular device were only a few of the features that made this play extraordinary entertainment.

Goodbye, My Fancy. As soon as the veterans noticed Madeleine Carroll's name in electric lights, they rushed affectionately to see her in a play about a congresswoman, college life, and ethics.

Hold It! A musical flop, introduced to Broadway a millionaire producer, Anthony B. Farrell, who retaliated for box office neglect by buying his own theater, naming it the Mark Hellinger, paying performers while out of work, and readying a new musical for the next season.

Howdy, Mr. Ice! The new name for the old frozen-water show at the Center Theatre, which delighted audiences made up largely of out-of-towners.

Inside U.S.A. Nomenclature served as the come-on for the Howard Dietz-Arthur Schwartz musical. Other resemblances to John Cunther's book ceased with the mention of the title. What the audience did get was a conventional revue with the queen of clowns, Beatrice Lillie, mincing, side-stepping, and imitating superlatively. Her co-star, Jack Haley, seemed somewhat tepid in comparison, but Herb Shriner, the oncoming Will Rogers, precipitated a cascade of laughter. Valerie Bettis and Eric Victor won the dance honors.

Joy to the World. Poor Hollywood came in for another exposé in this loose comedy. Again the movie dictator blustered and ordered his slaves about. And again promiscuity and injustice flourished. As compared, though, with newspaper headlines of movie colony goings-on, the revelations were tame, synthetic and even silly.

Kiss Me, Kate. Unanimously hailed as an overnight hit was this musical which brought back Cole Porter's tunes to Broadway, shreds of *The Taming of the Shrew*, and enough laughs to purge the soul.

The Leading Lady. Written by Ruth Gordon and starring her, this was about a famous actor and his actress wife, and what is called professional jealousy. He died of it; the rest of the play was spent in a tedious effort to make his actress widow forget him and marry someone worthy who really loved her. By the time that happened, the play, the patience of the audience, and the run of the play was over.

Lend an Ear. Though entertainments that take their origin in Chicago and other points west rarely meet with New York approval, this play won immediate attention, critical praise and audience support. A company of talented young people put the entertainment in the hit class.

Life with Mother. Pleasurable was the encounter with old friends provided by Russel Crouse and Howard Lindsay in their sequel to *Life With Father*. Again Clarence strutted and cried, "Oh Gawd!" and again Vinnie was insistent, wily, and completely captivating. If this beloved pair could only continue thus throughout the years, even though their vehicle be attenuated, transparent, and obviously a tour de force, the whole world of theatergoers would rejoice.

Light Up the Sky. Exposé permeated the staid atmosphere of Moss Hart's newest comedy; and whether or not the characters concerned were true to certain originals or not, their behavior resembled certainly that of actors, playwrights, and producers during the trying days of a try-out. The laughter, at any rate, was almost continuous, thanks to the juicy parts which Moss gave such fine actors as Virginia Field, Sam Levene, Glenn Anders, and Phyllis Povah.

The Linden Tree. There's an old wheeze about English plays not succeeding in these United States and J.B. Priestley had proved it and disproved it intermittently. In this case he proved it, conclusively, for the public was not at all interested in the story of domestic troubles encased in volubility.

Look, Ma, I'm Dancin'! Some skilled young people and a backstage ballet revolution hoisted this play over a comparatively long engagement. Certain critics regarded Nancy Walker as an important addition to comedy ranks; an overvaluation, certainly, if spontaneity and charm are essential to a comedienne who expects to gain the stature of a Fannie Brice or a Beatrice Lillie.

Love Life. One hundred and fifty years of American marriage supplied the somewhat somber background in this play by Alan Jay Lerner and Kurt Weill. The approach was new, yet not particularly successful, for there was too much stress on heart-break and disillusion for a musical.

The Mad Woman of Chaillet. Even though fantasy served as the background, the characters concerned were delightful and the humor fresh. Martita Hunt, Estelle Winwood and Vladimir Sokoloff made the fantastic characters believable, in spite of their deviations from the so-called normal. The outdoor cafe setting was simultaneously the most realistic and the most imaginative replica of the *al fresco* scene that has ever come to Broadway.

Magdalena. Saturated with excellencies, yet badly edited. Though the score by Villa-Lobos never equaled the melodic charm of his famous cello composition, it boasted a brilliant mechanical piano number. The most original musical to reach Broadway in years and also the best sung, *Magdalena* was doomed from the first by an old-fashioned story that throttled a production which should have run for months.

Make Mine Manhattan. The outstanding features of this musical by Arnold Horwitt and Richard Lewine were Sid Caesar's reverse onomatopoeic numbers in which he imitated everything from a machine gun to a slot machine, Dave Burns' diver's sketch, and a take-off on a movie director with a cloak-and-suit training. The dances were attractive, the singers pleasant, and the music forgettable.

Me and Molly. In spite of the fact that Gertrude Berg, actress-author, overweighted this domestic comedy with hokum, the play rang true, had an authentic feeling for Jewish family life, several touching scenes, three or four fine characterizations, and many laughs.

Mister Roberts. Good dramatization of novels

are so rare that only two or three of them brighten stage history. This war play, however, was so good that it surpassed the original book by Thomas Heggen. The play was so good, indeed, that even though it was out-and-out theater, it was easy to accept as real life. This play should run forever.

My Romance. Anne Jeffreys, vocally excellent and notably beautiful, did as much as possible with an evaporated version of what was once a turbulent prima donna role. And although Sigmund Romberg has written some of the loveliest melodies in the history of the American stage, he failed to lift this score to his customary heights.

Power without Glory. Largely because its theme was not unified and the ending confused, this English importation did not achieve a profitable run. A second-act scene in which a sister, in the presence of her family, decided to betray her brother as a murderer, was one of the most powerful dramatic incidents of the season.

The Rape of Lucretia. Majorie and Sherman Ewing, who entered the producing ranks last year with *Angel in the Wings*, returned with an impressive production by Andre Obey, made into a music drama by Ronald Duncan and Benjamin Britten, composer of the grand opera, *Peter Grimes*. His score, in this instance, was so lacking in sustained melodies and hovered so near dissonance that it had little appeal for the popular audience. Kitty Carlisle, in the role which Katharine Cornell created here, sang well and looked handsome.

Red Gloves. The most discussed play of the season was Jean-Paul Sartre's Paris hit, *Les Mains Sales*, produced here by Jean Dalmple. Being largely a controversy on Communism, the piece recalled Arthur Koestler's self-analyses in *Darkness at Noon*. Academic rather than dramatic, only three scenes had enough action to relieve the monotony of interminable dialogue: a bomb blast, a pistol frisking, and a murder. Charles Boyer, making his American debut, was excellent as the Communist leader.

The Respectful Prostitute. The dramatist who practically dominated the New York season was a Frenchman, the versatile existentialist, Jean-Paul Sartre. He was represented by four plays: *Red Gloves*, *The Respectful Prostitute*, *The Victors*, and two revivals of *No Exit*. *The Respectful Prostitute* was simultaneously excellent theatre and an effective attack on race discrimination in the South. To establish his urgent principles, the dramatist stacked the cards, almost shamelessly. Yet his message came through surely to hundreds of his audiences; and his characters, though drawn on too broad lines, must have left a deep impression. The play practically established Meg Mundy as an actress of noteworthy ability.

Set My People Free. The superb acting of Juano Hernandez and one exciting scene—a Negro's assumption of spiritual and political power during a church ceremony—were the only justifications for this play by Dorothy Heyward.

The Silver Whistle. A modern histrionic Atlas, Jose Ferrer held the entire weight of this play by Robert E. McEnroe on consciously talented shoulders, but shoulders that were also grateful. For his role of vagabond was a lush one, a composite of François Villon, Omar Khayyam, and Cyrano de Bergerac, garnished with poetry excerpts, preaching, mugging, and courting. That wondrous actress, Doro Merande, provided laughable foiling as an inmate of a poorhouse. The play itself was an attenuated retelling of the miracles wrought by personality in old plays like *The Servant in the House* and *The Passing of the Third Floor Back*.

Skipper Next to God. The Experimental Theatre, borrowing John Garfield from Hollywood, produced a drama about a Dutch sea captain and his cargo of refugees. Though confused in its purposes, the piece carried on for a time, yet not long enough to insure the future of the Experimental Theatre.

Small Wonder. One act was enough. That act, however, had the brilliant young comedian, Tom Ewell, who is a complete entertainment in himself. As a skilled raconteur and facial expressionist, he gave personal continuity to the varied sketches. Mary McCarty and the dancing-singing chorus of youngster principals performed small wonders with repetitious stepping numbers and synthetic songs.

Summer and Smoke. Tennessee Williams' newest play presented a consistent study of man and woman in their relation to soul and body. It had conviction and poetry. Though it lacked the action and suspense of *A Streetcar Named Desire*, the characters were compelling. The prologue recalled Frank Wedekind's pioneer play of adolescence, *The Awakening of Spring*. The subsequent adult conflict between passion and conscience, convention and fear was embellished with dialogue that was intentionally euphemistic at times and deliberately crude at others. An illuminated chart of the male body and off-stage incidental music gave new life to the old story of the saint who became a sinner and the sinner who took on sanctity.

Where's Charley? Veteran of many revivals, *Charley's Aunt* bobbed up again under the title *Where's Charley?* Ray Bolger supplied a satisfactory answer by clowning all over the place, singing, dancing, and shifting attire with easy indecorum.

The Young and Fair. Life in a girl's school was used as the medium for a plea for democracy in this play written by N. Richard Nash and presented by Vinton Freedley. One girl was a female Hitler, another an ostracized Jewess, and still another a Gestapo member, intent on pinning a theft on an innocent schoolmate. The plot was reminiscent of many other schoolgirl feuds and too fragile to hold its lofty content.

Plays with brief runs. Among the less fortunate productions were: *Seeds in the Wind*; *Doctor Social*; *The Hallams*; *The Vigil*; *For Heaven's Sake*; *Mother*; *Kathleen*; *The Survivors*; *Harvest of Years*; *The Last Dance*; *Make Way for Lucia*; *Minnie and Mr. Williams*; *The Men We Marry*; *Sundown Beach*; *Old Mr. Meadowbrook*; *Time for Elizabeth*; *Sally*; *Strange Bedfellows*; and *Jenny Kissed Me*, starring the character actor Leo G. Carroll.

Repertory. Varied in range was the work of the repertory companies. Their bills included plays by Shakespeare and Henrik Ibsen. The D'Oyly Carte Company, happily returned to these shores, made an artistic and financial success. The Dublin Gate Theatre Players pleased with their acting, though not with their plays; and the Habima company drew its customary Yiddish theater enthusiasts.

Revivals. Tallulah Bankhead, in Noel Coward's *Private Lives*, transformed the piece into an exhibitionistic debauch and packed the house with gasping, shocked, but never outraged audiences. But Gertrude Lawrence wasn't able to revivify the same playwright's outmoded *Tonight at 8:30*. Though several decades old, *The Play's the Thing*, starring the suave actor, Louis Calhern, enjoyed an extensive run.

London Season. Plays which attracted audiences in London included *The Chiltern Hundreds*, *Edward*, *My Son*, *Don't Listen*, *Ladies*, and a revival of *The Relapse*, by Sir John Van Burgh. Popular also were the American importations *Oklahoma*, *Annie Get Your Gun*, and *Diamond Lil*.

Paris Season. Outstanding favorite of the Paris season was Jean Louis Barrault, whose repertory ranged from Shakespeare and drawing-room comedy to pantomime scenes from the motion picture *Les Enfants de Paradis*. Important also were Jean-Paul Sartre's *Dirty Hands*, *Invitation to the Chateau*, and *The Little Hut*. The musical hits included *Imperial Violets*, *The Folies Bergère*, and a musical version of *Madame Sans-Gêne*.

—BERNARD SOBEL

THEOSOPHISTS. The three main objectives of this group are: (1) To form a nucleus of the Universal Brotherhood of Humanity without distinction of race, creed, sex, caste, or color; (2) to encourage the study of comparative religion, philosophy, and science; (3) to investigate the unexplained laws of nature and the powers latent in man.

The Theosophical Society in America. Chartered in 1866 as a branch of the Theosophical Society, with international headquarters in Adyar, India, which was founded in New York in 1875. A National Convention and a Summer Training School for workers are held annually. President JAMES S. PERKINS. Headquarters, P. O. Box 449, Wheaton, Ill.

TIBET. An autonomous country in central Asia, north and northwest of the Himalayas. Chinese sovereignty over Tibet was established in the 18th century, but all Chinese officials were expelled from the country in 1912. Since 1939 however, the Chinese Republic has had a representative at Lhasa, the capital. Area, 469,294 square miles. Population, 3,772,061 (1946 estimate). Agriculture, stock raising, wool spinning and knitting are the chief occupations. Principal minerals are gold, borax, and salt. There is a large trade with China and India. The government is a theocracy, ruled by the 14th Dalai Lama through a regent. Lamaism, a modified form of Buddhism, is the religion of the people.

TIMOR, Portuguese. The areas in the Malay Archipelago, consisting of the eastern part of the island of Timor, together with the territory of Ambeno and the nearby islands of Pulo Gambing and Pulo Jako. Total area: 7,330 square miles. Population: 463,796. Capital: Dilly (Dilli). Coffee, sandalwood, sandalroot, copra, and wax are the principal export products. For the year 1946, estimated revenue and expenditure were balanced at 9,430,000 escudos. Public debt (Jan. 1, 1947): 34,488,000 escudos. A governor heads the government of the colony.

TIN. World production of tin showed a substantial increase in 1948 due to improved facilities, supplies, and conditions of labor in Malaya and the Netherlands East Indies, the principal producing areas. World production of tin in concentrates was approximately 150,000 long tons, not quite as high as the prewar average of 170,000 tons (1947: 113,500 tons). World smelter production of tin metal was 159,300 long tons (1947: 124,500 tons), reflecting some reductions in stocks of concentrates.

World consumption of tin, limited by allocations of the Combined Tin Committee and conservation measures imposed by government, for the first time since 1944 did not exceed production. World consumption was approximately 140,000 long tons (1947: 132,600 tons). The United States is currently consuming about 45 percent of world production, largely for tinplate used as canmaking stock, the balance for solder, babbitt, bronze, tubes, and foil. Restrictions on use, orders M-43 and M-81, were extended to June 30, 1949.

The Combined Tin Committee which sits in Washington includes members from the United States, Great Britain, Netherlands, France, Belgium, China, India, and Canada. Its specific function is to allocate tin metal among the importing nations based on the total pool of metal made available by the main producing nations.

An International Tin Study Group was organized in 1947 to study problems or difficulties not likely to be resolved by the ordinary development of world trade in tin. At the second meeting of the Group in Washington in April, the Group acted to set up a Working Party to study the practicability of framing an intergovernmental agreement on tin conforming to the principles of the International Trade Organization.

At the third meeting at the Hague in October it was agreed to submit a proposal for such an agreement to the member governments, final details to be worked out at an intergovernmental tin conference. The present membership of the Tin Study Group includes Australia, Belgium, Bolivia, British Colonies, Canada, China, Czechoslovakia, France, India, Italy, Netherlands, Siam, United Kingdom, and United States.

The production of tin in the form of concentrates by principal producers was approximately as follows: Malaya, 44,381 long tons (1947: 27,026 tons); Bolivia, 36,500 tons (1947: 33,259 tons); Netherlands East Indies, 29,000 tons (1947: 15,915 tons); Belgian Congo, 14,500 tons (1947: 14,897 tons); Nigeria, 9,300 tons (1947: 9,139 tons).

The 1948 production of the tin smelter operated by the United States government at Texas City, Tex., was approximately 38,000 long tons. The price of Grade A tin was held at 94 cents per lb. until June 1 when it was raised to \$1.03 and held there for the balance of the year 1948.

—JOHN ANTHONY

TOBACCO. The 1948 tobacco crop of the United States was estimated at 1,897,926,000 lb., compared with the 1947 crop of 2,109,581,000 lb. and the 10-year average (1937-46) of 1,664,265,000 lb. Yields of the chief producing States of the United States for the years 1947 and 1948, with acreage harvested, are presented in the accompanying table.

State	Acreage harvested		Production (Thousand lb.)	
	1947	1948	1947	1948
Mass.....	7,400	7,800	11,500	11,603
Conn.....	19,200	19,100	24,602	23,523
N.Y.....	800	500	1,080	650
Pa.....	39,400	39,700	58,518	63,505
Ohio.....	18,500	18,300	21,125	21,330
Ind.....	9,000	9,400	10,198	12,890
Wis.....	24,800	19,900	37,350	28,532
Minn.....	600	500	780	625
Mo.....	5,200	5,300	4,680	6,095
Kans.....	800	200	190	220
Md.....	48,000	47,000	38,400	35,250
Va.....	139,300	113,100	154,752	145,180
W.Va.....	2,800	2,700	3,360	3,308
N.C.....	792,500	604,000	907,181	746,990
S.C.....	137,000	103,000	155,495	128,750
Ga.....	107,900	82,900	127,142	98,993
Fla.....	26,500	20,100	27,036	20,846
Ky.....	349,500	340,400	385,073	413,390
Tenn.....	115,600	103,100	140,500	138,350
Ala.....	400	400	370	360
La.....	600	300	249	225
U.S.....	1,845,400	1,537,700	2,109,581	1,897,926

TOGOLAND, British. A United Nations Trusteeship territory since Dec. 13, 1946, administered by the United Kingdom. Area: 13,041 square miles. Population (1940), 391,473 natives. Chief exports are

cacao, coffee, kola nuts, palm kernels, and palm oil. Trade, finance, and education figures are included with those of the Gold Coast.

TOGOLAND, French. A United Nations trusteeship territory under French administration since Dec. 13, 1946. Area under French administration, 21,893 square miles. Capital, Lomé. Total population in 1946 was 918,000 natives and 638 Europeans. The majority of the population is pagan; by 1946, however, 87,425 natives had embraced Catholicism, and about 29,000 the Protestant faith.

Agriculture and grazing occupy most of the people. Chief crops are cocoa, yams, millet, cotton, and palm kernels. Native industries include weaving, pottery, woodcarving and straw-plaiting. Chief exports: palm-kernels, cocoa, ginned cotton, copra, coffee, and groundnuts.

TOKELAU (Union Islands). A group of islands in the Pacific consisting of three clusters of islets (Fakaofo, Nukunono, Atafu) in Lat. 8° to 10° S. and Long. 171° to 172° W. Formerly a part of the Gilbert and Ellice Islands colony, the islands were transferred to the jurisdiction of New Zealand on Feb. 11, 1926. Area: 4 square miles. Population: 1,388 (1945 census). Copra is the principal export. Tokelau is administered by New Zealand through its High Commissioner for Western Samoa.

TONGA (Friendly Islands). An independent Polynesian kingdom under British protection since 1899. Situated about 180 miles southeast of Fiji, Tonga comprises 150 islands and islets forming three main groups called respectively Tongatabu, Haapai, and Vavau. Total area: 250 square miles. Population: 40,670. Capital, Nukualofa, on Tongatabu. Native produce consists almost entirely of copra and bananas. Citrus fruits, taro, breadfruits, yams, and fish also are important. In 1946 exports were valued at £230,117; imports, £273,125. The 1947 revenue amounted to £159,200; expenditure to £106,600. Queen, Her Majesty Salote Tubou. British agent and consul, C. W. T. Johnson.

TRACK AND FIELD ATHLETICS. With the Olympics as an incentive, stars the world over put on their greatest shows of all time during the long indoor and outdoor campaigns of 1948, the climax coming at the London games when men and women of 58 nations competed for coveted medals.

One of the year's outstanding men was Harrison Dillard of Baldwin-Wallace College in Ohio, who set a world record of thirteen and six-tenths seconds (0:13.6) for the 120-yard high hurdles in April. After dominating all rivals to compile an amazing streak of 82 straight victories, Dillard had his string snapped in the national A.A.U. championships when he attempted to qualify in both sprint and hurdles for the final Olympic tryouts. A week later, smashing into the hurdles, Dillard failed to qualify in his specialty, but he did make the team as a sprinter and went on to take the 100-meter dash at London in the Olympic-tying time of 0:10.3.

The triumph of Bob Mathias, 17-year-old schoolboy from Tulare, Cal., in the national decathlon and his subsequent triumph in England were other highlights. The retirement of Gil Dodds after a successful indoor season also marked 1948. After setting an indoor mile record of 4:05.3, Dodds was felled by mumps. He later took the national outdoor 1,500-meter title, but strained an Achilles tendon in training and hung up his spikes.

Mel Patton became the first in history to run 100

yards in 0:09.3, but he lost to Barney Ewell in the final 100-meter Olympic trial. Chuck Foulville of Michigan set a world shot put mark of 58 feet, three-eighths inches, but a back injury kept him from qualifying for the Olympics.

Herb McKenley from Jamaica, B.W.I., flew to world records of 0:45.9 for 400 meters and 0:46 for the 440-yard dash. Another athlete from the Caribbean, Lloyd La Beach of Panama, tied the listed world standard of 0:10.2 for 100 meters.

National A.A.U. senior outdoor champions follow: Barney Ewell, Lancaster, Pa., 100 meters; Lloyd La Beach, 200; Herb McKenley, 400; Herb Barten, University of Michigan, 800; Gil Dodds, Boston A.A., 1,500; Curtis Stone, Shanahan C.C. of Philadelphia, 5,000; Edward O'Toole, New York A.C., 10,000; Henry Laskau, Maccabi A.C. of New York, 3,000 walk; Forest Efav, Stillwater, Okla., 3,000 steeplechase; William Porter, Northwestern University, 110 low hurdles; Roy Cochran, Los Angeles A.C., 400 hurdles; Madill Cartiser, University of Missouri, 200 low hurdles; Francis Delaney, San Francisco Olympic Club, 16-pound shot put; Fortune Gordien, University of Minnesota, discus; Stephen Seymour, Los Angeles A.C., javelin; Robert Bennett, Rhode Island A.A., 16-pound hammer throw; Henry Dreyer, New York A.C., 56-pound weight throw; Fred Johnson, Michigan State College, broad jump; Gaylord Bryan, Stanford University, running hop, step and jump; Tom Scofield, University of Kansas, and William Vessie, New York A.C., tie in high jump; A. R. Morecom, New Hampshire State A.A., and Robert Richards, Illinois A.C., tie in pole vault; New York A.C., team; Russell Thomas, Jeannette, Pa., pentathlon; Bob Mathias, decathlon.

A.A.U. indoor winners follow: William Mathias, Urbana, Ill., 60 yards; Dave Bolen, Boulder, Colo., 600; Philip Thigpen, Seton Hall College, 1,000; Thomas Quinn, New York A.C., one mile; Curtis Stone, three miles; Harrison Dillard, 60-yard high hurdles; Henry H. Laskau, one-mile walk; Lorenzo Wright, Wayne University, broad jump; John Vislocky, New York A.C., high jump; Robert Richards, pole vault; Norman Wasser, University of Illinois, 16-pound shot put; Robert Bennett, Providence, R.I., 35-pound weight throw; Seton Hall College, one-mile relay; Manhattan College, two-mile relay; New York Pioneer Club, medley relay; New York A.C., team.

Team championships in both the women's A.A.U. indoor and outdoor meets were won by Tuskegee Institute of Alabama. Mabel Walker of Tuskegee, Alice Coachman of Albany State College in Georgia, Juanita Watson of Tuskegee, and Stella Walsh of the Polish Women's A.C. of Cleveland, Ohio, were among the United States leaders. Stella Walsh captured three titles in the A.A.U. outdoor tests, taking the 100 and 200 meter dashes and the running broad jump. See OLYMPIC GAMES.

—THOMAS V. HANEY

TRADE, U.S. Foreign. During the calendar year 1948, general imports into the United States reached a new record high of \$7,070.3 million, or 23.3 percent above the 1947 value of \$5,733.4 million. Imports of vegetable foods registered the largest increase from \$129.6 million in November to \$182.7 million in December reflecting sharp increases in imports of cocoa beans, raw coffee, and sugar. Imports of inedible vegetable products advanced 82 percent from the November value of \$53 million to a December value of \$96.6 million, with the chief increases in imports of crude rubber and copra. Textile imports rose from \$45.7 million in Novem-

ber to \$67.7 million in December, metal imports from \$74.5 million to \$115.6 million reflecting increased imports of several metals including refined copper, reclaimed scrap lead, and tin blocks, bars, and pigs. On the other hand imports in December of edible animals and animal products dropped sharply from \$39.6 to \$29.8 million as cattle imports slumped from the relatively high levels of September, October, and November. Table 1 records the value of general imports and imports for consumption into the United States, month by month, for the calendar years of 1947 and 1948.

TABLE 1—U.S. IMPORTS OF MERCHANDISE
(Millions of dollars)

Month	General imports ^a		Imports for Consumption ^b	
	1947	1948	1947	1948
January.....	530.9	545.0	535.6	555.9
February.....	436.7	582.2	425.2	573.9
March.....	444.5	605.8	434.7	638.4
April.....	512.1	528.0	484.0	525.6
May.....	474.0	549.4	455.8	543.7
June.....	463.0	615.4	469.6	595.8
July.....	449.7	558.3	444.6	563.0
August.....	400.2	598.8	404.6	589.2
September.....	473.1	558.2	473.1	588.0
October.....	491.6	597.3	504.9	601.7
November.....	454.7	550.1	448.8	557.2
December.....	602.9	721.4 ^c	562.5	705.8 ^c
U.S. Total....	5,773.4	7,070.3 ^c	5,643.3	7,038.4 ^c

^a General imports include imports for immediate consumption plus imports for bonded warehouses. ^b Imports for consumption include imports for immediate consumption plus withdrawals for consumption from bonded warehouses. ^c Preliminary.

Exports. Total exports of the United States for the calendar year 1948 amounted in value to \$12,614.2 million, 17.7 percent under the 1947 record high of \$15,340.2 million (figures include exports under the Department of the Army Civilian Supply Program for 1947 and 1948).

TABLE 2—EXPORTS OF MERCHANDISE
(Millions of dollars)

Month	Domestic and foreign exports		Domestic exports	
	1947 ^a	1948 ^a	1947 ^a	1948 ^a
January.....	1,113.7	1,091.6	1,093.6	1,081.5
February.....	1,146.0	1,086.4	1,126.8	1,075.8
March.....	1,320.4	1,138.6	1,303.4	1,126.1
April.....	1,294.3	1,120.5	1,276.1	1,110.0
May.....	1,413.5	1,102.1	1,399.9	1,090.7
June.....	1,234.9	1,014.6	1,221.5	1,004.7
July.....	1,154.7	1,019.3	1,143.0	1,010.0
August.....	1,145.0	990.1	1,134.6	981.1
September.....	1,111.7	926.1	1,101.4	916.0
October.....	1,234.7	1,021.4	1,217.5	1,011.3
November.....	1,141.2	819.9	1,129.7	813.0
December.....	1,113.6	1,283.7 ^b	1,104.8	1,271.8 ^b
U.S. Total....	14,429.7	12,014.2 ^b	14,252.3	12,494.0 ^b

^a Army Civilian Supply exports, initiated during World War II to furnish relief to the civilian populations of occupied countries, are not included in 1947 figures but are included in those for 1948. Exports under this program were valued at \$901 million for the calendar year 1948 (\$910.5 million for 1947). ^b Preliminary.

All commodity groups showed increased exports from November to December with exports of machinery and vehicles amounting to \$360.3 million in December, compared with \$204.7 million in November. Among other important commodity groups showing large gains in exports from November to December of 1948 were metals and manufactures from \$63.6 to \$112.5 million; textiles from \$126.5 to \$185.7 million; vegetable foods from \$150.2 to \$192.7 million; and inedible vegetable products from \$35.9 to \$73.2 million.

Exports under the Department of the Army Civilian Supply Program rose slightly from \$40 million in November to \$45.8 million in December. While exports under the European Cooperation

Administration, and other United States foreign relief programs are included in the export figures contained in this summary, separate figures are not available for exports under any of these programs except the Department of the Army Civilian Supply Program.

TRANSJORDAN. An Arab kingdom, east of Palestine. Area: 34,700 square miles. Population: over 340,000, of which about 190,000 are settled and the rest nomadic. The capital, Amman, had about 20,000 inhabitants before its population was almost doubled by the influx of Palestinian Arab refugees. Some 281 miles of the Hejaz railway pass through Transjordan to beyond Maan. Over 1,400 miles of asphalted roads link Amman with all parts of the state and with neighboring countries. Most of the people are Sunni Moslems, and a few are Christians.

Education. In 1944 the 175 schools (both government and foreign) had some 16,000 students. The Islamic Higher College was scheduled to open in the fall of 1948.

Production. In addition to the 2,000 square miles of land cultivated fairly steadily there are at least 1,000 cultivable, the rest being desert. Essentially an agricultural country, especially in the western part, Transjordan produces varied crops: wheat, maize, barley, sesame, and vegetables. The estimated record cereal crop for 1948 was 450,000 tons of which only 50,000 were needed for local consumption.

Cattle breeding is important and a large number are exported; other livestock are also produced in substantial quantities and exported. The few industrial establishments include tobacco, cloth-weaving, and leather. Among minerals exported are phosphate, silica sand, and manganese. Petroleum Development (Transjordan Ltd.), a subsidiary of the Iraq Petroleum Company, in which American and French interests own 23.75 percent each, was prospecting for oil.

Foreign Trade. Exports additional to those mentioned above are cereals, skins and hides, and wool; most of the exports go to neighboring countries. Principal imports include animals, food, soap, olive oil, gasoline, kerosene, clothing, iron, timber, and paper—the chief suppliers were neighboring countries, Great Britain, and the United States. Trade (1946): imports were valued at £P6,607,233, and exports at £P2,044,171. Since Palestine played an important part in both exports and imports the trade pattern was drastically altered in 1948. In May all imports were subjected to import licenses for the first time.

Finance. For the first three-quarters of 1947 government expenditure totaled £P2,298,523 and revenue amounted to £P3,006,732. The currency used was the Palestinian pound (£P), equivalent to the pound sterling, and worth U.S.\$4.03. When in February Palestine's large sterling balances were blocked and Palestine left the sterling area, Transjordan followed suit, but planned to return with its own currency.

Government. King Abdullah Ibn Hussein of the Hashemite family (and great uncle of Iraq's young king) was appointed Emir of Transjordan in 1921 under the British Mandate and crowned king in 1946 at the Mandate's end. He is assisted by a Cabinet consisting of the Prime Minister and not more than five other Ministers, and a Parliament made up of a House of Representatives (elected for four-year terms) and a House of Notables (half as large) appointed by the King (for eight-year terms).

Events. Relations with Great Britain. Concern over the effect of the Palestine problem on British-Transjordan relations was reflected in a British government announcement in January. It stated that if the Arab Legion should cooperate in an attack on any Jewish state following British withdrawal from Palestine, the Legion's annual British subsidy of about £2 million would be withdrawn. In March the two countries signed a new 20-year treaty of alliance, replacing the 1946 one, to strengthen Transjordan's legal independence. Article 3 provided that either party would come to the aid of the other in case of war. In May the British cabinet decided to withdraw seconded officers from service with Transjordan's Arab Legion and to reconsider giving aid to other Arab armies. Although the British government withdrew its quarterly subsidy in July, it was resumed three days later as a result of Transjordan's acceptance of the Palestine truce requested by the United Nations Security Council.

Palestine Problem. On Dec. 2, 1947, both houses of Parliament voted unanimously to support Arab interests in Palestine, which were threatened by the United Nations Palestine partition vote. After active Arab Legion fighting in Palestine, June 1 was marked by the first Israeli bombing of Amman. In July, King Abdullah personally calmed the second of two demonstrations, in which shouts of "Down with the British" and "Down with Truman" were heard. In August the King reported that Transjordan was spending about £250,000 monthly for aid to Palestine refugees. The year was marked by Abdullah's conferences with Iraqi and other Arab leaders, both in Amman and other capitals, and was climaxed by his unilateral action in Palestine described in ARAB LEAGUE AFFAIRS. See PALESTINE. —DOROTHEA SEELYE FRANCK

TREASURY, U.S. Department of the. A Department of the U.S. Government which was composed in 1948 of the following principal branches.

- Bureau of Accounts
- Bureau of Customs
- Bureau of Engraving and Printing
- Bureau of Federal Supply
- Bureau of Internal Revenue
- Bureau of the Mint
- Bureau of Narcotics
- Bureau of Public Debt
- Committee on Practice
- Comptroller of the Currency
- Division of Tax Research
- Office of Administrative Services
- Office of Contract Settlement
- Office of the General Counsel
- Office of International Finance
- Office of the Secretary
- Office of Tax Legislative Counsel
- Office of the Technical Staff
- Office of the Treasurer of the United States
- United States Coast Guard
- United States Savings Bonds Division
- United States Secret Service

The Secretary of the Treasury in 1948 was John W. Snyder. See the separate listing of important bureaus; BANKS and BANKING; COAST GUARD; FINANCIAL REVIEW; PUBLIC FINANCE; SILVER; TAXATION.

TRIESTE, Free Territory of. A United Nations protectorate on the northeastern Adriatic which came into existence on Sept. 15, 1947, as a result of the terms laid down in the peace treaty with Italy, signed at Paris, Feb. 10, 1947. As defined in the peace treaty with Italy, the Free Territory of Trieste covers an estimated area of 276 square miles; 80 miles of coastline and 67 miles of land boundary. On Dec. 1, 1946, the inhabitants numbered 262,514.

Government. A governor, to be appointed by the Security Council of the United Nations for a term of 5 years, will be assisted by a council of government and a popularly-elected unicameral assembly. Neither the governor, nor the director of public safety whom he appoints, may be an Italian or Yugoslav national. The Free Territory is garrisoned by 5,000 American and 5,000 British troops.

Events, 1948. The Security Council was unable in 1948 to agree on a candidate for the governorship of Trieste, so that the post remained vacant. On March 20, the United States, Great Britain, and France jointly proposed that the Free Territory of Trieste should be returned to Italian sovereignty.

Three Agreements covering the supply to the British-United States Zone of the Free Territory, of currency, finance and foreign exchange were signed at Rome on March 9. On April 16, an Agreement was initiated between the Allied Military Government of the British-United States Zone of the Free Territory and the Italian Ministry of Foreign Trade, defining the procedure for implementing the Financial Agreements of March 9.

The representative of Yugoslavia, on July 29, requested the Security Council to consider the question of the independence and integrity of the Free Territory, and in particular to examine the legality of the agreements of March 9 and of April 16 concluded by the administration of the British-United States Zone of the Free Territory with the Government of Italy. He further requested the Council: to declare that the above-mentioned agreements were violations of those provisions of the Treaty of Peace with Italy which pertain to the Free Territory of Trieste; to undertake the measures it considered necessary and sufficient to nullify these agreements; and to assure the respect of the Governments of the United States and Great Britain of their international obligations, thus guaranteeing the independence of the Free Territory.

The representative of Yugoslavia, invited to participate in the Council's discussion of the Yugoslav complaint, submitted to the Council a draft resolution, which was supported by the representative of the Ukrainian S.S.R., calling for those agreements to be declared null and void. The representative of the Ukrainian S.S.R. submitted a draft resolution to the effect that the Security Council consider it urgently necessary to settle the question of the appointment of the Governor of the Free Territory of Trieste. United States and British representatives called the Yugoslav charges flimsy and unwarranted. The Council on August 19 rejected both the Yugoslav and the Ukrainian resolutions.

On July 13, the Italian delegation to the Organization for European Economic Cooperation (OEEC), to which the governments of countries fully participating in the European Recovery Program (ERP) must belong, proposed to the Council of the Organization that the British-United States Zone of the Free Territory of Trieste should be admitted to membership. The proposal was accepted by the Council and was subsequently ratified. Prior to the formal ratification, provision was made for the Zone's requirements to be taken into consideration in all planning for the allocation of ERP material among the participating countries. In addition, the United States Foreign Assistance Act, on which the ERP was based, provided for the continued supply to the Zone, during the interim period prior to its formal admission to OEEC, of its basic requirements of food, fuel and medical supplies. These supplies had hitherto been furnished under the United States Foreign Relief Program which terminated on June 30, 1948.

As soon as the OEEC Council's acceptance of Trieste's membership became known, members of the staff of the Commander of the British-United States Zone of the Free Territory visited Paris and presented the Zone's ERP plan to the representatives of the United States Economic Cooperation Administration (ECA). The Allied Military Government's proposals for the use of the local currency counterpart of the ERP funds for which it had asked was approved by ECA and, on September 25, the OEEC announced that \$18 million had been provisionally allocated for the first year of the Zone's plan. The Commander of the Zone, Maj. Gen. T. S. Airey, announced that of this amount, approximately \$12 million would be required for the purchase of food and fuel, and the remainder for industrial raw materials and equipment.

In November the annual report of the Yugoslav Army Military Government on the administration of the Yugoslav Zone of the Free Territory was distributed to the members of the Security Council. The report, among other things, stated that the Zone which remained under the administration of the Yugoslav Army covers approximately 510 square kilometers with a population of 68,000. It stated that the Yugoslav Zone constitutes an administrative region composed of two districts with towns and localities. The organs of the people's authority in their administrative units are the elected regional, district, town and local people's committees, the assemblies of which take decisions within the sphere of their competence.

TRINIDAD AND TOBAGO. A British crown colony lying off the coast of Venezuela, comprising the islands of Trinidad (1,864 square miles), Tobago (116 square miles), and adjacent islands. Total population (1946 census, provisional), 568,619. Capital, Port of Spain (on Trinidad), 94,564 inhabitants. Under an agreement reached in 1941, the United States was granted 99-year leases on the islands for naval and air bases.

Most of the inhabitants are of African descent, but there is still a large number of East Indians (192,445), and a number of Chinese. There were 294 primary and intermediate schools in 1946 with 94,343 pupils.

Production, etc. Petroleum production and agriculture are the leading economic activities of the colony. Sugar, cocoa, rum and bitters, copra, coffee, grapefruit, tonka beans, and rubber are important crops. Foreign trade in Trinidad dollars (1947): imports \$118,783,075; exports \$87,115,147; re-exports \$4,852,915 (\$1 U.S. = \$1.18 Trinidad).

Government. Finance (1947 est.): revenue \$35,946,944; expenditure \$37,444,750. The governor, Sir John Shaw (appointed Mar. 7, 1947), is assisted by an 8-member executive council and an 18-member legislative council. See **BRITISH WEST INDIES; CARIBBEAN COMMISSION.**

TRUCIAL OMAN. The Arab states (Abu Dhabi, Ajman, Debai, Shargah, Ras al Khaimah, and Umm ul Qawain) on the Persian Gulf. Area: 6,023 square miles. Population: estimated at 100,000. Chief capital: Abu Dhabi. Pearls are the chief export from the coast ports. The rulers of the six states are in treaty relations with Great Britain.

TUNGSTEN. Imports of tungsten ores and concentrates declined significantly in 1948, largely due to declining shipments from Bolivia, Brazil, Spain, and Siam, the first two being principal wartime producers. Imports from China and Korea represented 32 percent and 21 percent of receipts,

respectively, during the first 9 months. The approaching conquest of China by Communist forces is expected to jeopardize continued imports from this principal world producer. In terms of concentrates containing 60 percent WO_3 , imports in the 9 month period totaled 5,680 net tons (1947: 9,677 tons).

However, domestic production was at a significantly higher rate, 3,031 tons in 9 months (1947: 3,180 tons). Nevada, North Carolina, and California were the principal producing States. Domestic consumption of tungsten, used principally in the form of ferrotungsten and tungsten metal powder, reached a postwar high in 1948. Consumption in the first 9 months totaled 6,447 net tons (1947: 8,200 tons). Stocks of concentrates in the hands of producers, consumers, and dealers declined during the year. At the end of September, they totaled 4,783 net tons (60 percent WO_3 basis). On May 22, the duty on ores and concentrates was reduced to \$6.03 a net ton unit of WO_3 from the former rate of \$7.93.

—JOHN ANTHONY

TUNISIA. A protectorate of France on the coast of North Africa opposite Sicily. Under Article 60 of the 1946 constitution of France, Tunisia forms a part of the French Union and is at present classified as an "associated state."

Its area is approximately 48,332 square miles. Population (1946 census): was 3,232,383 of which 7.5 percent were Europeans (142,812 French), 87.6 percent Moslems (nearly all Arab-speaking), and 2.2 percent native Jews. The chief cities, with their 1946 populations, are: Tunis (the capital), 364,593; Sfax, 54,637; Bizerta, 39,327; Sousse, 36,566.

Production. Tunisia has from ancient times been a great grain-growing country. Despite the general impression of desert conditions, about one-third of the land is arable and one-tenth is in forests. But the crops vary greatly in volume from year to year, depending largely on climatic conditions. In 1946 the production of wheat was 325,000 metric tons, barley 156,000 tons, wine 548,628 hectoliters, and olive oil 11,700 short tons (1947). Principal mineral production (1947): iron ore 399,600 metric tons (55 percent metal content), phosphate 1,743,500 metric tons. Lead, zinc, manganese, copper, mercury, and a low grade of lignite are mined. Fishing is well developed and yields an average of 8,000 tons a year. Foreign trade (1947): imports 18,324,000,000 francs; exports 6,204,000,000 francs.

Government. Tunisia became a protectorate of France in 1881, and is under the supervision of the French Foreign Office, to which the Resident-General is subject. The latter, who is also Tunisian Minister of Foreign Affairs, in effect administers the country, though a Bey—Sidi Mohamed el-Amin—nominally reigns. He is assisted by ministers, but there are no representative institutions.

Events, 1948. The Tunisians have the reputation of being the most docile of the people of French North Africa, and their modern history supports this belief. At the same time, they are most closely in touch with affairs in the Arab-speaking Middle East and most susceptible to movements of opinion within the Arab League countries. The latter were desirous of discouraging France from pursuing a pro-Zionist policy in the United Nations, and they sought to achieve this end by exerting pressure through the peoples of French North Africa. It was assumed that the government in Paris would go to considerable lengths to avoid unnecessary trouble with its Moslem subjects.

In Tunisia a very sore point with the nationalists was the deposition and detention of Sidi Mohamed el-Moncef Bey. This ruler, belonging to a dynasty that had reigned in Tunisia since 1691, had been deposed on May 12, 1943, after occupying the throne for less than a year (having succeeded in June, 1942). He had been deposed by General Giraud on the charge that he had compromised the internal and external security of the Regency by assisting the occupying forces of the Axis—a charge which his supporters hotly denied. The deposed Bey had been deported to Madagascar and later obliged to live under guard at Pau in southern France.

At the end of August a representative of the Tunisian nationalists was in Lake Success to lay the groundwork for a formal complaint against France, charging her with repeated violations of the Treaty of Bardo of 1881, setting up the French protectorate in Tunisia. Such a protest would, in order to be entertained by the Security Council, have had to be presented by a member of the United Nations, but it was assumed that such a state could be found. Action would presumably have been asked under Articles 34 and 35 of the Charter, requiring the Security Council to investigate the situation as a threat to the peace and security of the area in question. However, on September 1 the exiled Bey, on whose behalf these steps were to be taken, died at the age of 67, thus forcing at least a temporary halt in the plans for a UN appeal.

By early 1948 much of the war damage suffered by Tunisia, and estimated to represent a loss of over 60,000 million francs, had been repaired. For example, 52 of the 58 major structures destroyed had been rebuilt (such as bridges, tunnels, and dams). The French government had undertaken to provide 80 percent of the cost of this rehabilitation and reconstruction. The French budget had also been called on to pay the deficit of some \$30 million a year in Tunisia's foreign trade since 1946.

Drought, which so often scourges Tunisian agriculture, was again wreaking havoc late in the winter, and appeals for help were sent to France, carried by the Resident General, M. Jean Mons. In September a group of French farm operators from Tunisia were in New York en route to Montana where they intended to study wheat-growing methods on Thomas Campbell's vast ranch. They reported that the 1948 wheat crop in the Regency would feed the people for only three months. Later in the fall Mr. Campbell himself went to French North Africa to give advice on the spot (see ALGERIA).

In mid-March Tunisia was hit by strikes in lead mines, textile, and other industries.

On July 25 Prime Minister Mustafa Kaak was attacked in a mosque by a fanatical nationalist student. The minister, who was also president of the Tunis Bar Association, belonged to the school of thought favorable to continuing the French connection for some time to come.

The French Assembly on August 20 passed a bill surrendering France's claim to Italian property in Tunisia. This renunciation of rights acquired under the Italian peace treaty was made in the interests of improving relations between the two countries.

—ROBERT GALE WOOLBERT

TUNNELS. Postwar improvement programs, both here and abroad, have called for the construction of new railroad and highway tunnels. In this country, dam construction has necessitated the relocation of two railroad tunnels.

Work on the Brooklyn-Battery vehicular tunnel is progressing and it should be opened early in 1950. The twin tubes under the East River in New York Harbor are 9,117 ft. from portal to portal and will be completed at a cost of \$77 million, exclusive of real estate.

The 1,200-ft., four lane, twin-bore tunnel through West Rock at New Haven was holed through on November 9. When completed it will form the final link in the Wilbur Cross-Merritt Parkway system. Construction on the Squirrel Hill tunnel on the Penn-Lincoln Parkway at Pittsburgh started this year. It will require about two years to complete the 4,225-ft. twin tubes. San Francisco plans a \$5 million tunnel under Russian Hill—to serve as an outlet to the congested financial district—which will require three years to complete.

In Spain, the Viella highway tunnel has been completed after 22 years of intermittent work. It serves a fertile valley at the head of the Garonne River which was cut off from the rest of the country six months each year. It extends 16,572 ft. and is said to be the longest highway tunnel in the world.

The 6,700-ft., \$8 million, double-track tunnel for the Union Pacific in western Wyoming will replace the old Aspen tunnel and eliminate the last stretch of single-track on the main line between Omaha, Neb., and Ogden, Utah. A Norfolk and Western double-track tunnel will replace the Elkhorn as part of a \$12 million relocation program and eliminate several heavy grades and sharp curves. This 7,050-ft. tunnel, started in January, 1948, will be completed early in 1950. Opening the 3,622-ft. Chesapeake and Ohio tunnel through Jenkins Mountain in February, opened up a vast unexploited coal region in Wise Co., Va.

The 7,100-ft. relocation tunnel on the Burlington should be completed in July, 1949. It was built by the Government in connection with the Boysen Dam project. Another relocation tunnel, for the Pennsylvania R.R., was made necessary because of the Conemaugh River Dam. This 2,660-ft. double-track tunnel near Saltsburg, Pa., is also nearing completion.

In France, 66 of the 70 railway tunnels damaged by the retreating Germans have been repaired and are in operation. In Yugoslavia a 1,128-ft. railway tunnel is being built to link the Trieste-Gorica line with Ljubljana and the rest of the Yugoslav railway system.

In England, several new tunnels are being built to facilitate electrification of the Manchester-Sheffield line. A single-track tunnel at Thurgoland was put into use in October for the down line while the up track will be centered in the old double-track tunnel. New twin-bore tunnels are being constructed at Woodhead to be completed early in 1952. Electrification will increase tunnel capacities 25 percent.

—J. W. HAZEN

TURKEY. A republic comprising Asia Minor and a narrow zone in Europe along the Straits between the Aegean and the Black Seas.

Area and Population. Area: 296,184 square miles. Population: over 19 million. Chief cities (1945 census): Ankara (capital) 226,712, Istanbul (Constantinople, port) 860,558, Izmir (Smyrna, port) 198,396. Ninety-five percent are Turks with Greek, Armenian, and Jewish minorities resident in the cities and the Kurds a restive element in eastern Turkey. Although Islam is no longer the state religion, most Turks are Moslems.

Communications. In 1947 there were over 4,700 miles of railway with extensions under construc-

tion. The 26,000 miles of roads are not nearly enough for the country's needs and many of them are poor. For that reason road improvement and road-building are an important part of the American aid program, with American equipment already at work. American, British, and French airlines connect Turkey with the rest of the world and Turkish State Airlines operates within Turkey and to Greece. New airports are being built. Radio, telegraph, and telephone facilities are operated by the government.

Education. High on the program of the new Turkish Republic was the establishment of a state educational system. Primary education is compulsory and all public education is free. In 1947-48 there were over 15,000 primary schools (private, public, and foreign) with almost 1,500,000 pupils; 265 secondary schools with 63,135 pupils; 86 lycées with 23,744 pupils, 231 vocational schools with 66,649 pupils; and 34 institutions of higher learning with 25,648 students. Among the latter are the (state) Universities of Istanbul and Ankara (with a number of faculties including law, medicine, and engineering) and the two American colleges, Robert College and Istanbul Women's College in Istanbul. Important in the overall educational program are the People's Houses founded to promote the intellectual and cultural development of the people, and the Rural Life Institutes established to train village leaders. In 1948 two thousand new school buildings were constructed.

Production. Forty million cultivated acres (one-third of them fallow) provide a living for two-thirds of the population; 20 million more are cultivable. Although such efforts are being made, production is still hampered by primitive techniques. Chief crops in 1948 were: wheat (155 million bushels), barley (90 million bu.), maize (23.6 million bu.), oats (21 million bu.), rye (15.5 million bu.), with vegetables, and fruit important. With the use of modern machinery wheat could be Turkey's most important export. A particularly fine tobacco is produced. Livestock breeding is widespread and the number growing, much of it being exported to Middle Eastern countries. Turkey has valuable forest resources.

Large-scale industry has developed steadily and rapidly since the first state five-year plan launched in 1934, except for a downward trend during World War II. Between 1936 and 1946 textile production almost doubled with the 1948 wool and cotton production total higher than the 1947. Sugar production is increasing. New industries including paper, glassware, iron and steel have been established. State control of industry is exercised through the Sümer Bank. Mining, under the government's Eti Bank, is also developing rapidly. Coal and chrome are the principal minerals. Coal production in 1947 (over 3.9 million metric tons) was 170 percent higher than in 1935 and the 1948 total was expected to be even higher. The 1947 chrome output of 117,975 metric tons was well over half the world's production. Chrome output will be increased when new American washing equipment is installed. Annual iron-ore production in 1947 was 12,133 metric tons. Other significant minerals are lignite, copper, and sulphur. In February oil was discovered in eastern Turkey.

Foreign Trade. The main exports are cereals, tobacco, minerals, dried fruits, livestock and products. Important imports include textiles, paper, machinery, vehicles, chemicals, tea, coffee, and cocoa. In 1947 total exports amounted to £2625 million (24 percent to the United States, the rest to Great Britain, Italy, and other countries) and

imports to £2685 million (33 percent from the United States, the rest from Italy, Great Britain, and other countries). Exports in the first six months of 1948 were 48 percent below those of 1947's corresponding period while imports were 30 percent higher. However, Turkey's exports in October, 1948, amounting to £273.8 million were more than twice those of October, 1947, and imports at £256.4 million were slightly higher than those of October, 1947. Thus the opening of the 1948-49 export season produced the first monthly export surplus of 1948.

Finance. The 1949 regular budget presented to the Assembly provided for expenditure of £21,415.5 million (slightly larger than 1948's budget). This included large appropriations for defense, education, and capital expenditure. Revenues were to total £21,295.5 million, the deficit to be made up by new taxes and long term public loans. As of July 1 Turkey's public debt was £21,526 million, of which £2986 million was domestic and £2540 million was foreign. Currency in circulation in November amounted to £2984 million. In June, 1948, the cost of living index was 343 (1937 = 100) having remained fairly steady since the initial climb to 347 in 1943; in November of 1948 it was 353. Since 1947 the exchange rate has been £2.83 to the U.S. dollar.

Government. The 1924 Constitution confers both executive and legislative power on the Grand National Assembly of 465 deputies elected every four years by universal direct suffrage. Its executive authority is exercised through the President of the Republic elected by it and through the Council of Ministers chosen by the President. President Ismet İnönü took over in 1938 following the death of the father of the Turkish Republic, Kemal Atatürk. The strict state control which was responsible for the country's initial extraordinary progress is being criticized both within and without the country by those who feel Turkey's citizens are now able to participate to a greater extent in governing themselves and developing their country.

Events, 1948. American Aid. The Foreign Assistance Act of 1948, in its Title III called the "Greek-Turkish Assistance Act of 1948," authorized the allocation of \$275 million for Greece and Turkey (in addition to the 1947 allocation of \$400 million, one-fourth of which went to Turkey). These funds were intended to continue military support and provide economic assistance under the European Recovery Program. Shipments of equipment (including vessels and planes) and assignment of personnel continued during 1948 with 349 Americans detailed to Turkey in the program as of June 30. In April a United States-Turkish Road Agreement was signed whereby the United States would help expand Turkey's road system. A five-member United States mission was despatched during November to study Turkish requirements for agricultural equipment; increased agricultural production was intended to help Turkey contribute its full share to Europe's economic recovery. In October Turkey signed a loan agreement with the Economic Cooperation Administration and the Export-Import Bank for \$30 million to finance industrial and agricultural projects.

Economic Development. A new five year over-all development plan was formulated which, if put into effect in toto, would require more than £2,000 million excluding American aid. It was to be financed by taxation, internal loans, profits from state enterprises, and foreign credits such as the loan requested from the International Bank. About one-fourth of the expenditures was to be on trans-

portation. The production of marketable coal and lignite was to be doubled and that of iron raised. Three large power stations were to be established, an American concern having been awarded the contract to build a new dam north of Adana in southeastern Turkey.

Relations with other Countries. In March the 1939 Anglo-Turkish alliance was reaffirmed and in April the Turkish and Greek Foreign Ministers reaffirmed Greek-Turkish friendship, promising more effective economic cooperation. As an active participant in the European Recovery Program Turkey revised its trade and payments agreements with Italy, Belgium, and Denmark in order to fit their agreements more effectively into the ERP plans.

Trade agreements also were signed with Sweden, Finland, and Poland. In November a British Trade Mission started negotiating for a revival of Turkish-British trade, reduced as a result of the decline in Turkey's sterling balances and restrictions imposed on sterling imports. In December a trade agreement signed with Western Germany restored to Turkey part of one of her chief prewar markets.

Relations with the Soviet Union and its satellites remained wary although no major crisis developed. In May Foreign Minister Sudak presented the conditions under which Turkey and the Soviet Union (not specified by name) could establish friendly relations: abandonment of aggressive threats, non-interference in internal affairs; reciprocal understanding based on honor and self-respect. In August trade ministry officials announced a Soviet offer to buy valonia, the first time a Soviet offer had been made since 1939.

Domestic Politics. The government's Republican People's Party and the Grand National Assembly finally adopted several reform measures long supported by the opposition Democratic Party. On Dec. 9, 1947, President İnönü gave up the actual leadership of the People's party, thus symbolizing the recognition that a two-party system did exist and that the People's Party could not call itself the only "official" party any longer. On Dec. 23, 1947, the nine-year state of siege in six provinces was lifted. Although imposed at the beginning of World War II it had been criticized as a way of exerting government control by non-constitutional means.

On January 13 the People's Party approved the government's proposal to guarantee secret balloting and public counting at all elections; on January 21 the government ruled that all recognized opposition parties could use radio facilities at election times; and on February 21 an article of the Police Law involving a denial of habeas corpus was revoked. In May the People's Party adopted a resolution permitting religious teaching in schools, banned since 1923. The undercurrent of concern over Turkish-Russian relations and reaction against Communism was revealed in a December demonstration by right-wing students memorializing the wrecking three years previously of two liberal newspapers. The meeting was boycotted by liberal students.

Archbishop Spyrou Athenagoras of New York, primate of the Orthodox Church in North and South America, appointed Patriarch of the Greek Orthodox Church, returned to Istanbul after giving up his American citizenship to resume Turkish citizenship.

The Executive Council of the United Nations Educational Social and Cultural Organization met in Istanbul in November to draw up the agenda for the UNESCO conference in Beirut in Decem-

ber. Turkey was appointed a member of the three-country United Nations Palestine Conciliation Commission. —DOROTHEA SEELEY FRANCE

TWENTIETH CENTURY FUND. A nonprofit organization for research and public education on economic questions. The Fund was founded in 1919 and endowed by the late Edward A. Filene, Boston merchant and philanthropist. Its entire income, administered as a public trust by a Board of Trustees, is devoted to its own research and educational activities. For each major investigation the Fund appoints a special research staff and an impartial committee of qualified persons who use the factual findings of the staff as a basis for recommendations on public policy. The Fund issues its reports in book form and supplements these with news releases, pamphlets, magazine articles, and other material, including educational films and radio programs. Active contact work is maintained with national organizations and educational institutions.

In 1948 the Fund published *Cartels or Competition?*, the second volume in a broad survey of the economic effects of international cartels and domestic monopolies. A report on *Electric Power and Government Policy* was also published during the year. In the field of labor relations, the Fund's Labor Committee completed a special report entitled, *Partners in Production: A Basis for Labor-Management Understanding*. The first of three surveys of economic and social conditions in foreign countries was published in 1948 under the title, *Report on the Greeks*. Similar reports were completed on investment and development possibilities in Turkey and Brazil.

As part of its program of public education, the Fund collaborated in the publication of a pamphlet, "Power, Machines, and Plenty" and the production of a forthcoming motion picture based on its 1947 survey of *America's Needs and Resources*. A graphic presentation of this survey entitled *USA: Measure of a Nation*, was also completed during 1948, as well as a supplementary report on future construction and capital requirements of the United States.

Officers: President, John H. Fahey; Chairman, Executive Committee, Henry S. Dennison; Treasurer, A. A. Berle, Jr.; Executive Director, Evans Clark; Economist, J. Frederic Dewhurst. Address: 330 West 42 St., New York 18, N.Y.

UGANDA. A British protectorate in East Africa, under British administration since 1894. Area, 93,981 square miles, including 13,680 square miles of water. Population (1947 estimate), 4,110,370, including 3,530 Europeans and 31,840 Asiatics. Capital, Entebbe (7,321); trading center, Kampala.

A government educational scheme has supplemented the earlier mission schools. In 1945, a total of £247,843 from public funds was expended for education. For the same period enrollment in various schools totaled 260,903.

Production and Trade. Agriculture and cattle raising are the chief occupations of the people. Cotton, the chief product, occupied 1,072,495 acres in 1946-47, yielding 231,678 bales. Other products are coffee, sugar, oil-seeds, sisal, tin, hides, ivory and tobacco. There are valuable forests. Total imports in 1946 amounted to £5,157,773; total exports were valued at £9,657,026. The chief imports are manufactured goods and cotton fabrics. There is a uniform customs tariff for Uganda, Kenya, and Tanganyika.

Finance. In 1946 revenue amounted to £3,891,000; expenditure (excluding loans) £3,566,000.

Public debt, Dec. 31, 1946, amounted to £2,850,000.

Government. The whole protectorate is under administration, but the native kings or chiefs, whose rights are in some cases regulated by treaties, are encouraged to conduct the government of their own subjects. Buganda is recognized as a native kingdom under a Kabaka. He is assisted by three native ministers and a native assembly. In Buganda (and in Bunyoro, Ankole, and Toro, also ruled over by native chiefs, as well as in most other parts of the protectorate more directly administered), purely native matters are dealt with by the various native councils, but in serious cases there is an appeal to British officers or courts. The chief representative is the governor, who (with the assistance of the executive and legislative councils) makes ordinances for the administration of justice, the raising of revenue, and for other purposes. Governor: Sir John Hathorn Hall. (See EAST AFRICA HIGH COMMISSION.)

UNESCO (United Nations Educational, Scientific, and Cultural Organization). A Conference for the Establishment of an Educational, Scientific, and Cultural Organization of the United Nations was convened by the Government of the United Kingdom in association with the Government of France, and met in London Nov. 1-16, 1945.

It was attended by representatives of 44 governments and by observers from a number of international organizations.

UNESCO came into being on Nov. 4, 1946, when the instruments of acceptance of 20 signatories of its Constitution had been deposited with the Government of the United Kingdom. The first session of the General Conference met in Paris from Nov. 19 to Dec. 10, 1946.

The purpose of UNESCO is to "contribute to peace and security by promoting collaboration among the nations through education, science, and culture in order to further universal respect for justice, for the rule of law, and for the human rights and fundamental freedoms" for all, which is affirmed by the Charter of the United Nations.

To realize this purpose, UNESCO: 1. collaborates in the work of advancing mutual knowledge and understanding of peoples through all means of mass communication; 2. gives fresh impulse to popular education and to the spread of culture; 3. maintains, increases, and diffuses knowledge. In carrying out these functions, UNESCO works with the United Nations and the other specialized agencies, with national groups and individuals, and with international non-governmental agencies through working agreements and grants-in-aid.

The program of UNESCO falls under six broad headings: reconstruction, communication, education, cultural interchange, human and social relations, and natural sciences.

Reconstruction. This work is concerned with encouraging and assisting the restoration of the educational, scientific, and cultural life of countries which were devastated by the war. To carry out this task UNESCO works through the Temporary International Council for Educational Reconstruction (TICER).

It is estimated that by May, 1948, approximately \$150 million worth of materials and services were supplied through voluntary organizations in donor countries for educational reconstruction in the war-torn areas.

Communication. This field includes those projects intended to increase understanding across national frontiers by various means, such as the exchange of

persons and closer relations between peoples through their films, press, radio, and libraries, and through their publications.

An Office for the Exchange of Persons has been set up in Paris to develop exchange-of-persons programs and to relate them to similar activities being carried on by international, national, and private agencies throughout the world. Reports from Member States will form the basis of a world handbook on international fellowships and related opportunities which, it is hoped, will be issued annually.

An International Ideas Bureau will be created to foster the spread of information about cooperation in education, science, and the arts. Special emphasis is being given to the encouragement and development of public libraries. A Book Coupon Scheme is permitting the purchase in any Member State of the literature of the other, despite existing currency restrictions. A further project is to explore ways of encouraging the inexpensive production of books and periodicals.

Education. In this field, UNESCO is concerned especially with the promotion of a world-wide campaign of Fundamental Education, with efforts to increase education for a world society and with a program to raise educational standards in all member states.

The Fundamental Education program is designed to bring a basic minimum of education to all under-privileged peoples. "Pilot Projects" are being undertaken in Haiti, China, East Africa, and Peru. A large number of national experiments in Fundamental Education in all parts of the world will also be linked to UNESCO's program to form a network of "Associated Projects." In adult education, UNESCO will act as a clearing house of information, and it is intended to produce materials on international affairs suitable for adaptation and extensive use by adult study groups.

During July and August, 1948, three seminars were held: one in London on the education and training of teachers; a second in Prague on childhood education; and the third in New York on teaching about the United Nations and specialized agencies in the school systems of Member States. A fourth seminar was held at Caracas, Venezuela, in August-September in cooperation with the Pan American Union.

A Preparatory Conference of Representatives of Universities was organized by UNESCO, in collaboration with the Netherlands Government. It met at the University of Utrecht in August. Representatives from 34 countries attended. Action was deferred on the preparation of a Teacher's Charter and the Educational Charter for Youth. In 1947 a program was begun for the improvement of textbooks and teaching materials.

Cultural Interchange. This covers UNESCO's work in the fields of philosophy and the humanities, museums, arts and letters, and the translation and wider exchange of classics and great books. An International Theatre Institute to facilitate the interchange of representative theatrical works and to aid the freer travel of personnel across frontiers was established in 1948. Preliminary steps were taken toward the establishment of an International Music Institute. UNESCO continued to organize the International Pool of Literature, which was begun in 1947. An ambitious project for the survey of existing color reproductions of works of art and the stimulation of further production was given special attention in 1948.

In pursuance of its task of increasing international understanding, UNESCO hopes, in the next few years, to present to the peoples of the world

a small bookshelf, the titles of which will read: "The American Way of Life"; "The Brazilian Way of Life"; "The British Way of Life"; "The Indian Way of Life"; and so on for all the principal peoples of the world.

Human and Social Relations. In this part of its program UNESCO seeks to strengthen understanding among peoples by studying the tensions, the prejudices, and ignorances which separate them and by finding means to overcome these barriers to international cooperation. UNESCO has also been authorized to prepare a Source Book describing the work already under way in Member States in the study of tensions which arise from technological improvements and the resulting shift in populations.

Natural Sciences. In this field UNESCO works to make possible greater collaboration between scientists around the world, to help lighten the so-called "dark zones" of science and technology in certain regions, and to assist man better to appreciate and make effective use of his natural environment. Field science cooperation offices—in Rio de Janeiro, Cairo, Nanking, and Delhi—have been established to serve as liaison centers for science and technology between deficiency regions and the more highly developed areas of the world.

Member States. As of Dec. 31, 1948, there were 45 states which were full members of UNESCO: Afghanistan, Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Canada, China, Colombia, Cuba, Czechoslovakia, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, France, Greece, Haiti, Honduras, Hungary, India, Iran, Iraq, Italy, Lebanon, Liberia, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Saudi Arabia, Switzerland, Syria, Turkey, Union of South Africa, United Kingdom, United States of America, Uruguay, and Venezuela.

Officers. Members of the Executive Board for 1949: Sir Sarvepalli Radhakrishnan (India), Chairman; C. Parra-Perez (Venezuela), Vice Chairman; Roger Seydoux (France), Vice Chairman; Ronald Walker (Australia); Alf Sommerfelt (Norway); Stanislaw Arnold (Poland); Paulo Carneiro (Brazil); Guillermo Nanetti (Colombia); Chen Yuan (China); Victor Dore (Canada); Shafik Ghorbal Bay (Egypt); Resat Nuri Guntekin (Turkey); Manuel Martinez-Baez (Mexico); Sir Jogn Maud (United Kingdom); Alex Photiades (Greece); George D. Stoddard (United States); Louis Verniers (Belgium); Count Stefano Jacini (Italy). Director General: Jaime Torres-Bodet (Mexico).

The organs of UNESCO include: a General Conference which meets annually; an Executive Board of 18 members which meet at least twice a year; a Secretariat responsible for the implementation of programs of action. Permanent Headquarters: Unesco House, 19 Ave. Kleber, Paris 16^e, France.

Events. The Third Session of UNESCO's General Conference was held in Beirut, Lebanon from Nov. 17-Dec. 11, 1948, with delegates from 33 nations present. A far-reaching program in the fields of education, science, and culture, designed to promote peace and international understanding, was adopted. Dr. Julian Huxley, whose term expired, was succeeded by Jaime Torres-Bodet of Mexico. The Conference adopted a 1949 budget of \$7,780,000, an increase of \$97,363 over the 1948 budget.

Foremost among the new schemes is the continuation and extension of UNESCO's work in Germany and the launching of an educational program in Japan. Emphasis will also be placed on problems affecting the various trust territories.

UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.). A state occupying eastern Europe and northern and central Asia. Capital, Moscow.

Area and Population. Total area of the U.S.S.R. (1946), including territory acquired since 1939, was 8,708,070 square miles; total population, 193,200,000 (estimated). The 16 constituent republics, with their capitals, areas, and populations, are listed in the accompanying table.

U.S.S.R. CONSTITUENT REPUBLICS

Republics	Capital	Sq. mi.	Population
Russian S.S.R.	Moscow	6,444,000	109,279,000
Ukrainian S.S.R.	Kiev	223,000	40,000,000
Byelorussian S.S.R.	Minsk	89,000	10,386,000
Azerbaijan S.S.R.	Baku	33,000	3,210,000
Georgian S.S.R.	Tbilisi	27,000	3,542,000
Armenian S.S.R.	Yerivan	12,000	1,300,000
Turkmen S.S.R.	Ashkhabad	187,000	1,254,000
Tajik S.S.R.	Dushanbe	158,000	6,282,000
Tatar S.S.R.	Stalinabad	55,000	1,485,000
Kazakh S.S.R.	Alma-Ata	1,056,000	6,148,000
Kirgiz S.S.R.	Frunze	74,000	1,500,000
Karelo-Finnish S.S.R.	Petrozavodsk	76,000	500,000
Moldavian S.S.R.	Kishinev	13,000	2,200,000
Lithuanian S.S.R.	Vilna	24,000	2,880,000
Latvian S.S.R.	Riga	25,000	1,971,000
Estonian S.S.R.	Tallinn	18,000	1,131,000

The populations of the 38 leading cities, including the capitals of the 16 constituent republics, are shown in the accompanying table.

POPULATION OF CITIES

City	Population	City	Population
Moscow	4,137,018	Voronezh	326,836
Leningrad	3,191,304	Yaroslavl	298,065
Kiev	846,203	Ivanovo	285,069
Kharkov	833,432	Ardunangel	281,091
Baku	809,347	Omsk	280,716
Gorky	644,116	Chelyabinsk	273,127
Odessa	604,223	Tula	272,403
Tashkent	585,005	Vilna	250,000
Tbilisi	519,175	Minsk	238,772
Rostov-on-Don	510,253	Alma-Ata	230,000
Dnepropetrovsk	500,662	Vladivostok	206,432
Stalino	462,395	Yerivan	200,000
Stalin grad	445,476	Stalinsk	169,538
Sverdlovsk	425,544	Tallinn	147,000
Novosibirsk	405,580	Ashkhabad	126,000
Kazan	401,665	Kishinev	110,000
Kuibyshev	390,267	Frunze	93,000
Riga	385,000	Stamensk	83,000
Saratov	375,890	Petrozavodsk	70,000

Education and Religion. Elementary and secondary education in the ten-year schools is free and compulsory. Small tuition charges have been made in higher schools since 1940. The number of trade schools and factory apprentice schools (about 3,000 of each in 1947) was appreciably increased in 1948. Approximately $\frac{3}{4}$ of a million students were enrolled in 1,000 universities, professional schools, and institutes. Illiteracy was reduced to about 15 percent of the adult population, for the most part in remote rural areas.

The 1936 Constitution guarantees freedom of conscience, separation of church and state, separation of church and school, freedom of religious worship, and freedom of anti-religious propaganda (Art. 124). In 1946, there were 22,000 actively functioning Greek Orthodox congregations; one Patriarch, 6 Metropolitans, 75 Archbishops and Bishops, 10 seminaries, 3 theological academies, and 87 monasteries and convents.

Production. The 4th Five-Year Plan, launched in 1946, has set 205,000 million rubles as the 1950 goal for industrial output, with total capital investments for the period of the Plan fixed at 157,500 million rubles. Most Soviet statistics, as made public, give no figures on total volume of production in various lines but merely record percentages of increase over preceding years and percentages of fulfillment of the Plan. In most lines production

during 1948 was restored to the 1940 level. The following figures in millions of metric tons (oil in millions of barrels) indicate probable total output during 1948, with the production goals of 1950 indicated in parentheses: pig iron, 15.0 (19.5); steel, 18.3 (25.4); coal, 166.0 (250.0); oil, 226.5 (257.0).

On other aspects of production and foreign trade, see *Events* below.

Finance. Under the terms of the budget approved by the federal Supreme Soviet on Feb. 4, 1948, estimated 1948 revenue was 429,150 million rubles; expenditure, 388,041 millions. Military expenditure was set at 66,000 million rubles, a reduction of 2,500 millions from the 1947 level. According to the reports of Finance Minister Zverev, revenue collected in 1946 (in millions of rubles) totaled 325,000, and in 1947 totaled 385,200, while expenditure for the same years was 307,000 and 361,200.

Communications. Of the 66,000 miles of railway (1945), 30 percent is double-gage. Highways extended 1,682,000 miles in 1940. There are 68,000 miles of navigable inland waterways and several thousand miles of canals. In 1946 a regular passenger air service between Moscow and Vladivostok was inaugurated. There are daily flights between Moscow and the capitals of the Union Republics.

Government. Under the Constitution of Dec. 5, 1936 (Art. 30), "the highest organ of state authority of the U.S.S.R. is the Supreme Soviet of the U.S.S.R.," consisting of two chambers, each elected for a term of four years by universal, direct suffrage and secret ballot. The present Soviet of Nationalities, or upper chamber, and the Soviet of the Union were elected on Feb. 10, 1946 (for composition, see *YEAR BOOK, Events* of 1946, p. 664). The Presidium of the Supreme Soviet consists of a President (Nikolai Shvernik, elected Mar. 19, 1946), 16 Vice Presidents (1 for each Union Republic), 24 Members, and a Secretary. Under the terms of the Constitution, the Council (Soviet) of Ministers (Cabinet) is chosen by, and responsible to, the Supreme Soviet.

Communist Party. The Communist Party of the Soviet Union (Bolshevik)—C.P.S.U. (B.)—is the only legal political party in the U.S.S.R. Its highest organ, the Party Congress, has not met since 1939. No Party Conference has been held since 1941. The Central Committee (71 members, 68 alternates) elects the Politburo, the Orgburo, the Secretariat, and the Commission of Party Control.

At the close of 1948 the Politburo consisted of Joseph B. Stalin, Vyacheslav M. Molotov, Nikolai Shvernik, Lazar M. Kaganovich, Klimenty E. Voroshilov, Nikita S. Krushchev, Andrei A. Andreyev, Anastas I. Mikoyan, Lavrenti P. Beria, and Georgi M. Malenkov, with Nikolai A. Voznesensky, Alexei N. Kosygin, and Nikolai Bulganin as alternates.

Events, 1948. On New Year's Day of 1948 *Izvestia* surveyed the old year and contemplated the new. Its editors opined that the "consolidation" of the forces of "world democracy" during 1947 would bring no comfort to "the dark forces of reaction assembled under the banner of Wall Street. . . . The struggle between two world outlooks and two systems—an ideological and diplomatic struggle—will of course continue in 1948. . . . (We shall win because) peoples do not want to serve the god of war and gold."

The "struggle" became in fact more extended, more intensified, and more embittered. Its imperatives, real or imagined, shaped all major decisions in domestic and foreign policy. Its conclusion was brought no nearer, despite gestures looking toward

a settlement. Its cessation remained an impossibility, since neither protagonist found means of compelling the other to yield, while each feared a fatal loss of prestige and power should it break off the engagement or make serious proposals for compromise. The outcome remained uncertain, despite heavy blows given and received. That the combat was waged in most arenas of rivalry with words and goods rather than with guns left it none the less a "war," albeit frigid rather than torrid.

Though all were free to express their doubts, few Americans doubted the official thesis that the conflict was due to Soviet aggression, Communist conspiracy, and a diabolical plot, directed from Moscow, to enslave the world. Though none was free to express his doubts, most Soviet citizens were apparently persuaded, with equally firm conviction, of the correctness of the official thesis that the conflict was due to American aggression, capitalist conspiracy, and a diabolical plot, directed from Washington, to enslave the world. The tenacity with which these views were held, and the ardor with which they were documented and publicized, measured the chasm between the Super-Powers. Since the waging of total war comporting ill with political democracy and personal freedom, these values—loudly praised by both American and Soviet spokesmen—were jeopardized in the U.S.A. by the exigencies of battle and were left in the U.S.S.R. in the realm of verbal abstractions unsullied by contact with everyday human experience.

Politics and Politicians. Under these circumstances, the long-deferred 19th Congress of the C.P. (originally scheduled for 1942 under the rules adopted in 1939) was not held, nor were explanations offered of the delay or of a possible future convocation. Neither was any Party Conference summoned, despite the fact that the last was held in February, 1941, and that the 1939 rules called for an annual meeting. The C.P. Central Committee continued to meet. Its Politburo continued to determine policy in secret sessions. In the absence of any evidence regarding its deliberations, rumors abroad regarding rivalries and schisms among its members continued to be speculations or fabrications.

Andrei A. Zhdanov—member of the Politburo, Party boss in Leningrad, head of the Cominform, and allegedly Stalin's successor-designate in the Premiership and in the leadership of the C.P.—died of heart disease on August 31, at the age of 52. He was buried in Red Square below the Kremlin wall on September 2 in an impressive State funeral in which Molotov delivered the principal address. Zhdanov's passing reduced the number of full members of the Politburo from 10 to 9. Whether, as some gossips abroad contended, the influence of Malenkov was herewith significantly increased could not be ascertained. The Politburo, like the C.P. as a whole, continued to present itself to the Soviet public and to the world as a monolithic citadel of political wisdom. Its members appeared wholly united behind the incessantly eulogized leadership of Stalin, whose 69th birthday was observed on December 21.

During 1948 death removed from the Soviet scene several lesser celebrities: Sergei Eisenstein (February 10), most famous Soviet cinema director; Leonid K. Ramzin (June 29), scientist and engineer who achieved distinction despite his having been sentenced in 1930 to a ten-year jail term for treason; Marshal Pavel S. Rybalko (August 28), commander-in-chief of armored, tank, and mechanized troops; Ludwig K. Martens (October 20), engineer and first Soviet Ambassador-designate to

the U.S.A., whence he was ordered deported in 1921; and Prof. A. Vishnevsky (November 13), well-known neurologist.

No Union-wide elections were held during 1948. The session of the supreme Soviet which adjourned on February 4 voted the budget; ratified the 1947 decrees of its Presidium abolishing the death penalty in peace-time and forbidding Soviet citizens to marry aliens; and approved the replacement of Minister of Justice Nikolai M. Rychkov and Chairman of the Cabinet Committee on Arts Mikhail B. Khrapechenko by Konstantine P. Gorshenin and Poitkarp I. Lebedev, respectively.

On February 17, Finance Minister Arseny Zverev was replaced, after a 9-year term of office, by Alexei N. Kosygin. On August 12, Ivan T. Tevosyan was named head of the newly merged Ministries of Ferrous and Non-Ferrous Metallurgy. Other mergers of federal Ministries (Food Reserves and Material Reserves, Timber Industry and Paper and Pulp Industry, Chemical Industry and Rubber Industry) reduced the total number from 62 to 58. Other changes of administrative personnel announced on September 2 made Alexei D. Krutikov a Deputy Chairman of the Council of Ministers; M.A. Menshikov First Deputy Minister of Foreign Trade; V.P. Popov First Deputy Minister of Finance; and Ivan I. Maslennikov and A. Panyukov Deputy Ministers for Internal Affairs. In mid-October Nikolai I. Smirnov succeeded V.V. Vorobev as Minister of the Meat and Dairy Industries. On November 12 Marshal Alexander M. Vasilevsky was replaced as Chief of the General Staff by Gen. S.M. Shtemenko to relieve him of an excessive burden of work. Vasilevsky retained his post as Deputy Minister of the Armed Forces.

Industry and Finance. The progress of Soviet economy was hampered by the burdens of the "cold war," by the still gigantic tasks of reconstruction in the devastated areas, by industrial inefficiency and occasional dishonesty, and by continued low standards of living and of labor productivity. Despite these and other obstacles, much progress was made toward the goals set in the current Five-Year Plan. The currency reform of December, 1947 (see *YEAR BOOK, Events of 1947*, p. 515), achieved its major objectives. Rationing was abolished. Increased output of consumers' goods made possible a progressive reduction of prices. Since wages and salaries were not reduced, the result was a general rise of real incomes, albeit still of such modest proportions by American standards as to make the lot of the ordinary Soviet worker one of comparative penury.

On April 9, the Cabinet followed up the price reductions of Dec. 14, 1947, with new cuts: 10 percent for motor cars, sewing machines, radios, cameras, cigarettes, etc., and 20 percent for bicycles and motorcycles, vitamins, vodka, wines, beer, and soft drinks. The third annual 20,000 million ruble issue of lottery bonds was announced on May 3, with the bonds maturing in 20 years and affording prize money equivalent for the whole issue to 4 percent interest. Consumers' goods became more abundant month by month. Distribution was improved through the opening of some 16,000 new stores and restaurants during the year by the consumers' cooperatives. A decree of the federal Presidium of August 29, based on Art. 10 of the Constitution, authorized all citizens to build or buy for their own use private homes of not more than two storeys and containing not more than 5 rooms. Thanks in part to an expansion of prefabricated housing, some 19 million square metres of living space were made available during 1948,

representing a total 50 percent above 1947 and equal to total construction and reconstruction during 1946 and 1947 combined. By year's end thousands of new neon signs in Moscow were advertising a wide variety of products.

These improvements in living standards resulted from a general increase of production rather than from any shift of capital and labor from producers' to consumers' goods. Investment in heavy industry in relationship to total national income was in fact much larger than in the prewar years. The State Planning Commission reported in January that during the last quarter of 1947 industrial and agricultural output reached the average quarterly level of the last prewar year, 1940. In considering the budget for 1948, the Budget Committee of the Supreme Soviet sharply criticized inefficiency and excessive costs in industry, waste in local government, budgetary deficits in several of the Union Republics, and failures to meet quotas of housing construction. Coal production during the first quarter of the year registered a 20-percent gain over 1947. A spring campaign to cut costs put some factories hitherto "in the red" on a profit-making basis by summer. The labor shortage, felt acutely in the postwar years despite extensive demobilization, was alleviated through the currency reform which, by reducing hoarded savings and increasing the buying power of the ruble, brought new recruits into the labor market. The Komsomol organization directed the "mobilization" of almost three-quarters of a million young people into "labor reserves," assigned to two years of training in industrial and trade schools. The Five-Year Plan contemplated the training of 4,500,000 new skilled workers by 1950.

A July report of the State Planning Commission asserted that during the second quarter of 1948 industrial production had exceeded the planned quota by 6 percent and was 24 percent higher than in 1947. New industrial construction was up 26 percent and home building 42 percent. Total wages were up 8 percent. Retail sales topped 1947 levels by 83 percent for sugar, 50 percent for bread, 38 percent for cotton fabrics, 34 percent for silk fabrics, 29 percent for meat and candies, 31 percent for shoes, and 14 percent for vegetables. Planned quotas were not attained in fishing, special steels, combines, heavy motors and generators, steam turbines, and light motor cars. In October it was announced that total industrial production in the first 9 months of 1948 exceeded the 1940 level by 14 percent. These and other indices of output suggested, even to skeptical foreign observers, that the Soviet objective of fulfilling the Five-Year Plan in four years, i.e. by the end of 1949, would probably be achieved.

Agriculture. In spite of a late spring and sub-normal rainfall in the Volga area, the harvest of 1948 was larger than the excellent crop of 1947. This favorable result, which made possible a substantial increase in Soviet grain exports, was attributable to an increase of the area under cultivation by 27 million acres as compared with 1947; to more rapid and efficient sowing, cultivation, and reaping; to improved equipment and service on the part of the machine-tractor stations attached to the collective farms; and to the diffusion of improved farming methods and of new high-yield varieties of grains and vegetables, some of which were credited to T.V. Lysenko. While All-Union production figures for 1948 were not yet available at the time of writing, the crop in the Ukraine yielded 2,500,000 more tons of marketable grain than in 1947 and 550,000 more tons than in 1940.

Party and press continued their drive against "grafters and idlers" among collective farmers, reserving their sharpest barbs for those who spent more time cultivating their household plots than participating in socialized agriculture. That these rural elements were hardest hit by the currency reform did not, seemingly, modify their addiction to "private" rather than collective enterprise. In June the Council of Ministers decreed incentive payments, based on productivity, to farm executives; differential compensation to each group of farm workers in terms of crop yields; reexamination of work norms; reallocation of "labor days" (the unit of agrarian accounting) in the interests of economy and efficiency; and a maximum use of piece-work methods in fixing compensation. A decree of July 13 increased taxes (8-11 percent in the lowest brackets to 30-40 percent in the highest) on farmers' incomes derived from individual peasant farms or, for members of collectives, from cultivation of personal plots.

On October 24, the Council of Ministers and the Central Committee of the C.P. jointly announced a 15-year reclamation and development project covering 300 million acres, embracing 80,000 collective farms in the Volga basin, the North Caucasus, the eastern Ukraine, and central Russia. The plan was aimed at soil conservation through defense of the black-earth areas against desiccation and erosion caused by the winds sweeping westward from the deserts of Central Asia. It contemplated the planting of 4 forest belts between the Caucasus and the southern Urals, totaling 3,000 miles in length, the additional planting of 15 million acres of forest for local protection of collective farms, the construction of 45,000 reservoirs and ponds for irrigation and maintenance of ground water levels, and a new program of crop rotation. This ambitious scheme—glorified in the Soviet press with the usual fanfare, and minimized in the American press with the usual contempt—offered tangible promise of conserving and expanding the productivity of the most fertile lands of the Soviet Union.

The Heresy-Hunters. To most Western liberals the image of a Soviet society busily engaged in increasing production, reducing prices, raising living standards, and planning boldly for social welfare could not be reconciled with the image of a Soviet society dedicated to political dictatorship, ideological fanaticism, and intolerance of all dissent. Yet both images mirrored reality. The latter was indeed the prerequisite of the former rather than its antithesis under the conditions of "cold war" and the injunctions of the Stalinist version of Marxism-Leninism.

Private enterprise moves mountains in America. But in the U.S.S.R. mountains are moved only by faith. True fervor in the one true faith is more than ever needed when the faithful are engaged in extending the faith or in defending it against the devilry of the infidels. Hence the assumed necessity in the Soviet Union of 1948 for rulers to insist more emphatically than ever upon undeviating loyalty to the prevailing orthodoxy on the part of the ruled.

Since there was no occasion for such insistence in the realm of politics as conventionally defined, the Inquisitors directed their energies toward the arts, the sciences, and the "private" lives of citizens. Soviet nationals were forbidden to leave their country unless sent abroad on public business. Aliens were discouraged from entering the U.S.S.R., unless they were diplomats, journalists, or business men. Even these were viewed with suspicion and

restricted in their activities. Citizens who had married aliens during the war were forbidden to join their spouses abroad. "Bourgeois" morality, art, and science were all denounced anew as evil fruits of decadence.

In late December, 1947, Alexander Fadeyev, President of the Soviet Writers' Union, Stalin prize winner, and author of *Young Guard* (which had gone through 25 editions, totaling 1,160,000 copies) agreed "attentively and lovingly" to rewrite his novel to meet complaints in *Pravda* and in *Culture and Life* that he had glorified the Komsomols in their wartime role at the expense of the C.P. Economist Eugene Varga, already criticized and demoted in 1947, was again assailed by *Pravda* in January, and by many of his colleagues at a colloquium in May, for his "false Marxist-Leninist views"—i.e. his contention that a major capitalist crisis was remote and that public planning against depression was possible in bourgeois states. But he remained an editor of *Economic Questions*, successor to his own *Journal of World Economy and Politics*. In February the C.P. Central Committee accused the "big three" of Soviet music, Dmitri Shostakovich, Aram Khatchaturian, and Sergei Prokofiev, of "smelling strongly of the spirit of the modern bourgeois music of Europe and America" and indulging in "formalistic distortions" and "esthetic individualism." In April Stalin prizes of 100,000 rubles went to Lithuanian composer Josef Tallat-Kepsha ("Cantata About Stalin") and Reinhold Gliere ("Red Poppy Ballet") for their "classicism" and "realism." Writers and artists were told that their patriotic duty was to produce works intelligible to the masses, glorifying Soviet socialism.

In August the old biological controversy between Trofim D. Lysenko (President of the All-Union Academy of Agricultural Sciences, and a disciple of the late Ivan V. Michurin, the "Soviet Burbank") and the followers of Gregor Mendel and T.H. Morgan became a matter for political decision. The issue, vastly oversimplified, was that of the inheritance of acquired characteristics, with Lysenko contending that heredity could be affected by environment as shown by his own experiments in "vernalizing" winter wheat and in grafting and cross-breeding other plants. The Central Committee decided in favor of Lysenko. On August 27 the Academy of Sciences abolished the Cytogenetics Laboratory of Prof. N.P. Dubinin and "freed from their duties" Academician L.A. Orbeli, Secretary of the Section on Biological Sciences, and Prof. I.I. Schmalhausen, Director of the Institute of Evolutionary Morphology. Biology teachers were warned to shun "Darwin's Malthusian errors" as used by "the ideologists of modern imperialism" and to embrace "Bolshevik partisanship" as represented by the views of Michurin and Lysenko. On September 30, Prof. H. J. Muller, Nobel prize winner and geneticist at the University of Indiana resigned in protest from the Soviet Academy of Sciences, accusing Lysenko of being a "charlatan" and of indulging in "naive and archaic mysticism."

The scientific questions here posed were not to be disposed of so readily as the American press assumed. But their politicalization by the C.P. built new barriers between East and West. In November *The American Review of Soviet Medicine*, long edited by Dr. Henry E. Sigerist, suspended publication "for reasons which are so obvious that we need not elaborate on them." Shortly thereafter Sir Robert Robinson, President of the Royal Society, denounced the political suppression of the classical school of genetics in the U.S.S.R.

Heretics and Émigrés. If the Communist leaders of

the U.S.S.R. were gratified over their success in regimenting writers, artists, and scientists at home, they could scarcely avoid serious concern over the actions abroad of other Soviet citizens, attracted by the freedom, or the fleshpots, of the West. Desertions by Soviet officers and soldiers in Central Europe were estimated (by Western observers) to have averaged 1,000 per month during 1948. Anti-Soviet Ukrainians in the U.S.A. boasted, perhaps with more poetry than truth, of a "Ukrainian Insurgent Army" north of the Black Sea, supplied by the "American Organization for the Defense of the Four Freedoms in the U.S.S.R." The "International Peasant Union" (headed by Mikolajczyk, Matchek, Nagy, Buzesti, Gavrilovich, and Georgi M. Dmitrov) sought in vain to promote a UN inquiry into "Soviet aggression" in Eastern Europe and the Balkans. Victor Kravchenko ("I Chose Freedom") brought a libel suit in April against *Les Lettres Françaises* of Paris for calling him an embezzler and a stool pigeon.

More serious were the desertions to the "enemy" of other Soviet citizens, scarcely counterbalanced by a few counter-desertions on the other side. In the latter category was Annabel Bucar (February) and Sgt. James M. McMillan (May), both of the U.S. Embassy staff in Moscow, who left their posts and refused to return to the U.S.A. Conversely Col. J.D. Tassoyev (G. Takoyev), originally alleged by *Tass* to have been kidnapped in Bremen by British secret service agents, declared in London in September that Moscow was using "slave labor" to prepare a war of "imperialism" and "aggression." Alexander Barmine ("One Who Survived"), prominent among earlier émigrés, married as his third wife Edith Kermit Roosevelt, granddaughter of T.R., on Sept. 8, 1948.

Meanwhile the most sensational developments of the year centered around two Soviet teachers in the U.S.A., Mrs. Oksana Stepanova Kosenkina and Mr. Mikhail L. Samarin, who defied orders to return home. On August 7, Soviet Consul General Jacob M. Lomakin announced in New York that Mrs. K., scheduled to sail on July 31, had been "kidnapped" by White Russians and detained at Reed Farm, Valley Cottage, N.Y. (operated by the "Tolstoy Foundation, Inc."), whence she had been "rescued," in response to a letter appealing for help, and brought to the Consulate by Lomakin.

On August 9, it became known that Samarin had placed himself—as it later appeared, with the aid of Victor Kravchenko and Vladimir Zenzinov—in the custody of the F.B.I. to avoid being sent back to Russia. On the same day Ambassador Alexander S. Panyushkin formally demanded that the State Department release Samarin to Lomakin and protested that the Tolstoy Foundation was an anti-Soviet "criminal organization," maintained in "direct violation" of the Litvinov-Roosevelt agreement of 1933. Karl Mundt, Acting Chairman of the House Committee on Un-American Activities, sought both teachers for questioning in connection with the "Soviet spy" inquiries initiated by the "confessions" of Elizabeth T. Bentley and Whittaker Chambers that they had acted as Communist espionage agents in Washington prior to World War II. On August 10, the Committee subpoenaed Samarin, who was in hiding near New York.

On August 11–12, as Miss Bentley testified that she had received \$2,000 in October, 1945, from Anatol Gromov, First Secretary of the Soviet Embassy, in payment for services as a courier for a Communist spy ring, Molotov declared that Mrs. K. had been kidnapped on July 31 and taken to the apartment of "White Guard" Zenzinov and thence

to the farm maintained by the "White Guard gang" headed by Alexandra Tolstoy. He accused U.S. authorities of connivance in the "criminal actions" against Kosenkina and Samarin, and demanded the latter's transfer to the Soviet Consulate and "punishment of all persons who have taken part in the kidnapping of Soviet citizens." At the same time Panyushkin protested to the State Department against the writ of *habeas corpus* issued by Judge Samuel Dickstein to Lomakin, requiring him to produce Mrs. K. in the State Supreme Court on the morning of the 12th. The writ had been issued at the request of Christopher Ennott, Chairman of "Common Cause, Inc."

The State Department asked Gov. Dewey to suggest to Judge Dickstein that he take the case "under advisement" as an "appropriate interim measure," since "service of process upon the Consul raises complex questions of serious legal and policy nature." Samarin told the House Committee that if he returned to the U.S.S.R. he would be shot or sent to a concentration camp for life, but his testimony, according to J. Parnell Thomas, was "not of pertinent significance" to the investigation of spy rings.

L'Affaire Kosenkina; Rupture of Consular Relations with the U.S.A. Meanwhile, at 4:00 p.m., August 11, Mrs. K. jumped out of a third floor window at the Soviet Consulate in New York; landed in the courtyard with broken bones and internal injuries; was carried back into the Consulate; was removed therefrom by local police to the Roosevelt Hospital; and asserted she had been "held a prisoner" and had been visited by the Soviet Ambassador who sought to induce her to sign an affidavit that she was not being detained against her will. On August 13, as Lauchlin Currie and Harry D. White (who dropped dead shortly thereafter) denied before the House Committee the Bentley-Chambers charges that they had aided "Red spies," the State Department denied Molotov's charges and offered asylum to the two Russian teachers. A *Tass* statement accused the U.S. of violating the immunities of the Consulate. On August 14, Panyushkin formally protested against the alleged violation of consular extraterritoriality by the N.Y. police.

On August 15, *Pravda* declared that Lt. Robert Dreher, U.S. Assistant Naval Attaché, who left Moscow May 1, had been "caught in espionage," had confessed, and had been recalled at the request of the Foreign Ministry. The State Department replied that the case against Dreher (arrested by the M.V.D. on April 23) was a "plant." Two days later Lomakin declared that Mrs. K. had been terrorized by the "White Guard fiends" headed by Countess Tolstoy, had been further unbalanced by hostile publicity and curious crowds, and had attempted suicide by virtue of being driven to a "nervous breakdown" by her kidnappers and by U.S. officials. On August 19, Secretary Marshall, in a note to Ambassador Panyushkin, "categorically" repudiated Soviet protests and accusations and demanded Lomakin's recall for having "abused" his position and "grossly violated" proper standards of official conduct.

On August 25, Moscow replied by repudiating the American statements as "unfounded and contrary to fact"; repeated its charges and its insistence on access to Mrs. K. and Samarin; declared that "the normal execution of their functions by Soviet Consulates in the U.S." had been rendered "impossible"; and announced its decision to close immediately its two Consulates (N.Y. and San Francisco), to terminate the U.S. Consulate in Vladivostok, and to cancel previous arrangements

for the opening of a U.S. Consulate in Leningrad. Vice-Consul Zot I. Chepurnykh and his family sailed for home the preceding evening. Lomakin followed suit on August 29.

Mrs. K. told the press that her husband had been liquidated in the purge of 1937, that her son had been killed in the war, and that she had long ago decided to leave the U.S.S.R. forever. "Actually they made a big mistake in bringing me here from Russia." She was visited by Samarin and Countess Tolstoy. "Common cause" established the "Kosenkina Fund for Victims of Communism." Mrs. K. left the hospital in November, after writing her life story with the aid of Isaac Don Levine, whose subsequent mention of Laurence Duggan was used by Karl Mundt to implicate Duggan, immediately after his strange death, as a "Soviet spy." Advance proceeds from the syndication of the story enabled Mrs. K. to pay a hospital bill of \$8,000. Like Elizabeth Bentley and Louis Budenz, she subsequently embraced the Catholic faith. The American market for ex-Communists continued to boom, despite a constant increase in the supply.

Cominform and Satellites. The inability of the Kremlin to prevent the desertion of some of its citizens abroad was matched on the diplomatic stage by its inability to hold all of its allies in line. The "Soviet bloc" was further consolidated. But the defection of Tito's Yugoslavia raised questions as to whether the Red Empire had not perhaps been overextended to a point at which centrifugal forces were proving more potent than the attraction of the central sun.

The Communist coup of February in Czechoslovakia coincided with the signing in Moscow on the 18th of a 20-year mutual aid treaty between the U.S.S.R. and Hungary, pledging common defense against future aggression by Germany "or any other State which would directly or in any other form unite with Germany in a policy of aggression." On March 18 a similar treaty was signed between the U.S.S.R. and Bulgaria. The treaty of April 6 with Finland differed from its counterparts in that it ran for only ten years; pledged mutual respect for sovereignty, independence, and non-interference in internal affairs; and did not obligate Helsinki to come to Moscow's military aid in any war arising out of a direct attack on the U.S.S.R. Finland merely pledged herself to resist, jointly with the U.S.S.R., any military aggression by Germany or its allies against Finland or "against the Soviet Union across the territory of Finland" (Art. 1).

On June 28, the Cominform issued a long statement expelling the Yugoslav C.P. from membership and accepting the view of the Central Committee of the C.P. of the U.S.S.R. "which assumed the initiative in unveiling the wrong policy of the Central Committee of the C.P. of Yugoslavia and especially the wrong policy of Comrades Tito, Kardelj, Djilas, and Rankovitch." They were accused of "a hateful policy in relation to the Soviet Union"; discrediting, and spying upon, Soviet military specialists; "identifying the foreign policy of the Soviet Union with that of the imperialistic Powers"; disseminating "slandorous propaganda borrowed from the arsenals of counter-revolutionary Trotskyism"; fostering "capitalist elements" and "kulaks" in the villages; relying on the peasantry rather than the proletariat; subordinating the Party to the People's Front; ignoring the principles of intra-party democracy, elections, and self-criticism; choosing members of the Central Committee by cooptation instead of election; displaying "exaggerated ambition, megalomania, and conceit" in

rejecting earlier criticisms; and indulging in "adventurism," "opportunism," "anti-Marxism," and "nationalism." Cominform Headquarters were transferred from Belgrade to Bucharest. *Pravda* on July 1, in predicting Tito's downfall, accused him of "Bonapartism" and his followers of "idolatry."

Counter-charges and rejoinders continued intermittently, with no apparent weakening of Tito's position, no Yugoslav shift to a "pro-Western" orientation, and no change in treaty relations between Belgrade and the Soviet bloc. By year's end it appeared that Eastern economic pressure against Yugoslavia was beginning to pinch. Behind a semantic façade, the actual sources of the breach were practical rather than ideological. Soviet desire to compromise with the West regarding a treaty for Austria had been frustrated in May by Tito's insistence on reparations and on annexation of part of Carinthia. Letters exchanged from March to May between Central Committees, and secretly circulated within Yugoslavia in August, indicated that Tito was under attack for allegedly expecting the U.S.S.R. to go to war, if need be, to secure Trieste for Yugoslavia, resenting Soviet direction of Belgrade's diplomacy and military policy, condemning "spheres" and "blobs," and championing "neutrality" in any conflict between East and West.

Red Danube. The Moscow-Belgrade rift had no outwardly visible effects on the diplomatic conference which met in the Yugoslav capital on July 30 to discuss a new regime for the Danube. The Western Powers, represented by Cavendish Cannon, Sir Charles Peake, and Adrien Thierry, were outnumbered by the States in the Soviet orbit, represented by Vyshinsky, A.K. Baranowski (Ukraine), Clementis, Eric Molnar, Anna Pauker (Rumania), Eugeni Kamenov (Bulgaria), and Ales Bebler (Yugoslavia). The Yugoslav delegation voted consistently with the Soviet bloc. Vyshinsky's proposal, presented in a "take it or leave it" spirit, contemplated a Danube Commission limited to the seven riparian States, with France and Britain excluded from the participation they enjoyed under the Convention of 1921. Ambassador Cannon withdrew the U.S. draft proposal and vainly sought to amend the Soviet draft—which, said he on August 14, despite its lip-service to free and equal navigation for all, would permit "the continuation of exclusion, discrimination, yes, even imperialism on the river."

The outcome, when the conference ended on August 18, was a new convention, approved by unvarying votes of 7 to 3, which the U.S.S.R. and its satellites signed but which the Western Powers refused either to sign or to recognize as legally valid. The State Department condemned "Soviet manipulation of the six votes of its puppet States to impose a convention which legalizes its monopoly of Danube shipping. . . . The unhappy subservience of the Danube peoples to Soviet imperialism was never more clearly manifested." Except for its upper waters in Austria and Germany (both unrepresented at Belgrade), the Danube seemed likely to remain under the control of the U.S.S.R. and its allies—at least until such time as America and Britain might conceivably achieve the geopolitical objective espoused by Byrnes, Bevin, Churchill, and Marshall, i.e. putting an end to Communist rule and Soviet influence throughout Eastern Europe and the Balkans. This, however, seemed likely to remain unattainable short of a decisive Western victory in World War III. See DANUBE CONFERENCE.

Relations With U.S.A.: War Guilt. That the two Super-Powers were moving steadily during 1948

toward an ultimate trial by battle was taken for granted by the American public, doubted with dark foreboding in the U.S.S.R., and grimly suspected in Western Europe and elsewhere. Yet "cold war" or "hot peace" was preferred to open violence by top policy-makers on both sides: in Washington because "firm containment" of "Communist imperialism" was deemed likely to promote the contraction and later the disintegration of Soviet power; and in Moscow because an extension of the anti-Communist program of the "Wall Street imperialists" was deemed likely to weaken American democracy, bankrupt American capitalism, and foster the spread of Communism more effectively than the Kremlin could ever hope to do. The struggle of the giants therefore took the form of a contest in invective, evasion, and endurance, with neither side prepared as yet to open a war of extermination or conclude a peace of compromise.

The stage was set for the 1948 phase of the conflict by the deadlock over Germany reached at the London meeting of the Council of Foreign Ministers in December, 1947. Molotov reiterated Soviet demands for Four-Power control of the Ruhr and \$10,000 million in reparations from current German production. Marshall reiterated his categorical rejection of both proposals and urged a restoration to the Reich of part of the new Poland. The stalemate caused Washington to move more rapidly toward the establishment of a West German government, and caused Moscow to maneuver for a resumption of negotiations, with the double objective of delay and of putting the onus for refusal on the U.S.A.

On Jan. 22, 1948, as tentative Soviet overtures were allegedly made to Robert Murphy in Berlin, the State Department released a 357-page volume of 260 documents on *Nazi-Soviet Relations, 1939-1941* (Washington, D.C., Government Printing Office), selected and translated from material in the archives of the German Foreign Office, captured by U.S. forces in Germany in 1945. This allegedly "sensational" publication was presented in the American press as further evidence of Soviet "deceit," "perfidy," and "imperialism," and as a powerful reply by Marshall and Truman to Soviet charges of U.S. "imperialism." In fact the "revelation," albeit a fascinating record of German-Soviet relations as reflected in Nazi documents (which may or may not be reliable), revealed little not already known or suspected from other sources. By omitting all references to the diplomacy of 1933-38, all material bearing on Nazi relations with the Western Powers, and all of the Wehrmacht documents used at Nuremberg, this compilation conveyed a seriously distorted impression of the events and decisions of the period covered.

Moscow replied with an extensive pamphlet, "Falsifiers of History" (Embassy of U.S.S.R., Washington, February, 1948), and, in May, with a two-volume collection of captured German data, *Documents and Materials Relating to the Eve of the Second World War, 1937-1939* (International Publishers, New York, 1948), selected to demonstrate that Anglo-French appeasement of Hitler was motivated by the hope of deflecting Nazi aggression against the U.S.S.R.

In years to come objective observers, if any, may well conclude that the Kremlin won the 1948 battle of the documents and also scored more points than its opponent in the battles of diplomacy and day-to-day propaganda. On Nov. 19, 1947, the *Literary Gazette* of Moscow reproduced a *New York Times* dispatch of June 24, 1941, quoting Harry S. Truman: "If we see that Germany is

winning, we ought to help Russia, and if Russia is winning we ought to help Germany, and in that way let them kill as many as possible." The Communist coup in Prague in February was for Moscow a political victory but a propaganda defeat.

According to the Hoover Commission Report released in December, faulty intelligence regarding Soviet moves, submitted by the U.S. armed forces (identity unspecified), created a "war panic" in Washington in March. The signature of the Brussels Pact and President Truman's appeal for universal conscription, selective service, and E.R.P. (both March 17) reflected acute Western fears.

Relations With U.S.A.: Comedy of Errors. On April 15, the Soviet Foreign Ministry ordered NBC correspondent Robert Magidoff to leave the country, on the ground that his American secretary had exposed his "espionage" activities. He ascribed his expulsion to the "late campaign" against all foreigners from the West. Such episodes were soon overshadowed by events of graver import. On May 4, with no publicity and no communication of intent to London or Paris, Ambassador Smith presented a note to Molotov which was apparently inspired by anxiety lest the Kremlin overestimate Washington's overestimation of alleged Soviet readiness to risk war. The U.S.A., asserted the note, wishes to "make it unmistakably clear that (it) has no hostile or aggressive designs whatever with respect to the Soviet Union. . . . As far as the U.S. is concerned, the door is always wide open for full discussion and the composing of our differences. My Government earnestly hopes that the members of the Soviet Government will not take lightly the position of the U.S. Government as here expressed. . . . It is our earnest hope that they will take advantage (of their opportunities to alleviate tension). If they do, they will not find us lacking in readiness and eagerness to make our own contributions to a stabilization of world conditions entirely compatible with the security of the Soviet peoples."

Ambassador Smith at once left Moscow to go fishing in Normandy. On May 11, *Tass* released his statement, along with Molotov's reply which repeated familiar denials and countercharges. But "the Soviet Government views favorably the desire of the U.S.A. to improve relations . . . and agrees to the proposal to proceed, with this end in view, to a discussion and settlement of differences."

As millions of peoples throughout the world breathed a brief sigh of relief, Truman and Marshall felt obliged to deny that any negotiations were intended or any change of policy contemplated. On May 10, Henry A. Wallace had released an "Open Letter to Premier Stalin," calling for a peace settlement based on disarmament, non-export of weapons, resumption of unrestricted trade, free movement of tourists, students, journalists, and scientists between the two countries, peace treaties with Germany and Japan, withdrawal of troops from China and Korea, and mutual respect for sovereignty and the principle of nonintervention. "There is no misunderstanding or difficulty between the U.S.A. and the U.S.S.R. which can be settled by force or fear, and there is no difference which cannot be settled by peaceful, hopeful negotiations. There is no American principle or public interest, and there is no Russian principle or public interest, which would have to be sacrificed to end the cold war."

In a public reply of May 17 Stalin gave guarded praise to the Wallace statement as "an open and honest attempt to give a concrete program for a peaceful settlement. . . . As far as the Govern-

ment of the U.S.S.R. is concerned, it considers that Mr. Wallace's program could serve as a good and fruitful basis for such an agreement and for the development of international cooperation." The State Department on May 18 declared this opinion "encouraging," but asserted that the issues mentioned by Stalin "are not bilateral issues" but "are of intimate and compelling interest to many countries"—e.g. as shown by the 200 meetings of the UN Atomic Energy Commission where agreement was blocked "because of the adamant opposition of two of its members, the Soviet Union and the Ukraine, to proposals which were acceptable to the other nine nations represented." On May 26, Marshall, in a letter to the Senate Foreign Relations Committee, listed 37 Soviet "violations of agreements."

In June the Soviet press resumed its attack on American "war-mongers." On June 9, Moscow protested at a *Newsweek* report of May 17 recounting General Kenney's plan for the atomic annihilation of the U.S.S.R. in the event of an attack on the U.S.A. Marshall rejected the protest in the name of freedom of the press. The summer crises are dealt with above and below. On October 8, it became known that President Truman had considered sending Chief Justice Fred M. Vinson to Moscow on a special diplomatic mission and had planned a radio broadcast on the subject, only to be dissuaded by Marshall and Lovett. If Henry Wallace's meager electoral support on November 2 was disappointing to Moscow, Truman's victory over Dewey was none the less described by Molotov as a defeat for a program of reaction and aggression. Post-electoral hints from Moscow regarding the desirability of resuming negotiations evoked no response from the President-elect save general denials and expressions of devotion to peace.

Meanwhile U.S. exports to the U.S.S.R. declined from a monthly average of \$7 million early in the year to \$23,000 for June (as compared with \$4,262,000 in June of 1947), thanks to Washington's refusal to license the sale of goods of potential military value to Eastern Europe. Moscow protested but did not retaliate, preferring on the contrary to increase its sales to the U.S.A., including manganese and chrome. In July American sales to the U.S.S.R. totaled \$400,000 and purchases \$5,700,000. The corresponding figures for August were \$1,200,000 and \$8,500,000, and for September \$100,000 and \$9,800,000. At the end of the year, for the first time since 1912, Russia had a "favorable balance of trade" with the U.S.A.

This result suggested to the Kremlin that Washington was unwilling to subordinate its crusade against Communism to the quest for markets, except when the latter could be made the instrument of the former. Another event indicated that the U.S.A. continued to place moral principles above political expediency. On July 26, Dr. Alfred Bilmanis, Latvian Minister, died. His country, along with Estonia and Lithuania, had been incorporated into the U.S.S.R. in July, 1940. His death offered the State Department an opportunity, if it desired one, to acknowledge (as Washington had contended between 1917 and 1922) that the three Baltic States were properly part of Russia. But on August 12, Marshall greeted Anatol Dinsbergs as Latvian *Chargé d'Affaires*, and on September 23, the Department officially acknowledged him as Acting Consul. He declared that his chief task would be to acquaint America with the progress of Latvia's struggle to "regain freedom" from the "illegal and ruthless" Soviet occupation. Estonian and Lithuanian "diplomats" also continued to be

accredited in Washington, presumably as symbols of the happy day to come when their lands should be liberated from Communism.

Battle for Berlin. In the interim, Soviet-American relations were dominated by the struggle over Germany. As early as Nov. 23, 1947, Molotov had vainly sought to commit Marshall and Bevin against a separate regime for the Western zones in the event that no agreement could be reached for a national government. On Jan. 20, 1948, Sokolovsky demanded, also in vain, the dissolution of the new German agencies in "Bizonia." Early in March the Soviet press condemned emerging plans for a West German regime as "hypocritical" and an "outrageous violation" of Potsdam. Moscow formally protested to Paris, London, and Washington. On May 28, Maj. Gen. Alexander G. Kotikov, Soviet spokesman on the Allied Kommandatura, twice referred to Berlin as part of the Soviet zone, thus hinting at things to come should the Western Powers persist in their project.

The project was finally agreed upon in June, to the accompaniment of a currency reform in the Western zone. Moscow had already imposed a series of restrictions on trade and travel between the Western zone and the Western sectors of Berlin. On June 23-24, Molotov met in Warsaw with the Foreign Ministers of the satellites. Their communiqué asked for a German peace treaty, based on a provisional all-German regime, withdrawal of all occupation troops within a year, demilitarization, reparations, and Four-Power control of the Ruhr. When this overture was ignored, Moscow instituted a full "blockade" of the Western sectors of Berlin—on the pretext of preventing the introduction of the new Western marks and on the apparent premise that the Western Powers would thereby be compelled either to negotiate a settlement for all of Germany on terms acceptable to the U.S.S.R. or to quit the former German capital and partition the Reich between East and West at the Elbe. Thanks to General Clay's initiation of the "airlift" in late June, the Western Powers refused to accept either alternative.

A complete stalemate presently developed because of the inflexible refusal of the Kremlin to acquiesce in a Western-sponsored German regime in Trizonia and the equally inflexible refusal of Washington, followed doubtfully by London and Paris, to abandon the enterprise or to quit Berlin. The U.S. protest to Moscow of July 9 expressed willingness to resume Four-Power negotiations, but only on condition that the Berlin blockade first be lifted. The Soviet reply of July 14 contended that Western rights in Berlin were contingent upon quadripartite control of Germany as a whole, that they had been invalidated by Western action, and that the U.S.S.R. would neither lift the blockade nor negotiate regarding Berlin *per se*. On July 26, the Western Powers reiterated their determination to establish a West German government and imposed a counter-blockade against the Soviet zone of Germany by stopping all railroad traffic.

In the complex negotiations which ensued in Moscow (July 31-August 30) among Molotov, Stalin, Bedell Smith, Frank Roberts, and Yves Chataigneau—despite Western "refusal" to negotiate under "coercion"—a "compromise" was seemingly reached in the "directive" of August 30 to the Military Governors in Berlin: the West agreed to the introduction of Soviet-zone currency throughout Berlin, subject to Four-Power supervision; the Kremlin agreed to a Berlin settlement without reference to the whole Reich. But by September 8, the Governors were deadlocked. Following further

inconclusive discussions, the three Western Powers on September 29 referred the issue to the UN, charging that the Soviet blockade was a threat to international peace and security. Vyshinsky denied the competence of the Security Council to consider the issue, but informed Juan Bramuglia on October 13 that the U.S.S.R. would lift the blockade if the Western Powers would withdraw their complaints and recognize the validity of the accord of August 30.

The six "neutral" members of the Council, with the approval of the Western Powers, finally proposed a "compromise" resolution calling for immediate lifting of the blockade, resumption of negotiations among the Military Governors on the basis of the August 30 directive, and a meeting of the Council of Foreign Ministers on the whole German question. In the Soviet view, this formula required the U.S.S.R. to abandon its major bargaining weapon in exchange for nothing save further discussion of a problematical settlement. On October 25, the Security Council voted on the resolution, 9 to 2, with the U.S.S.R. and the Ukraine in the negative. This Soviet "veto" killed the proposal.

Trygve Lie and Herbert Evatt nevertheless persisted in an effort at settlement by proposing anew a meeting of the Council of Foreign Ministers and a Berlin currency settlement based on the directive of August 30. At the close of the year a commission of financial experts was scheduled to make recommendations early in 1949. But no settlement was in sight. Moscow had evidently lost the battle for the German public mind, and was experiencing economic difficulties in its zone because of the counter-blockade. The West had demonstrated its capacity via air power to feed Western Berliners on a low level, if not to keep them warm or provide full employment. But the airlift was costing almost \$1 million per day and taking an increasing toll of lives. Each side had long since made the issue one of prestige. Therefore neither could yield to the other. Neither side was prepared to risk an open test of force. The costly stalemate therefore continued.

U.S.S.R. and UN. With Washington committed to using the UN as a diplomatic weapon against Moscow, the role of Soviet representatives was that of obstructionists and propagandists against "American imperialism." Chile's proposals in mid-March to indict the U.S.S.R. before the Security Council as responsible for the Communist coup in Czechoslovakia led to a Soviet double veto in late May. On April 25, the U.S.S.R. joined the Trusteeship Council. On May 13, it was announced that Gromyko would be replaced by Jacob A. Malik as the chief Soviet spokesman at UN. On May 17, Moscow granted de jure recognition to the new state of Israel.

At the third session of the General Assembly in Paris, Vyshinsky on September 25 accused the U.S.A. of plotting war and proposed a general one-third cut in armaments during the next year. On October 2 he departed from the previous Soviet position to propose the simultaneous signing of two conventions on atomic energy, one to prohibit atomic weapons and the other to provide international control. Warren Austin questioned his sincerity, called his formula a "skin-deep Oriental device," and, on October 12, rejected the Soviet disarmament proposals on the ground that the U.S.A. could never disarm so long as the U.S.S.R. recognized "aggressive war" as a means of extending Communism over the world.

Here, as in other fields, the UN did not, be-

cause it could not, bring the Soviet-American "war" to an end. Moscow continued to boycott the Little Assembly, the Balkan Commission, and the UN Commission for Korea—from which Soviet troops were withdrawn at the end of the year.

Since the premise of the Charter was the unity of the Great Powers, and since this premise was denied in Moscow and Washington alike, the UN could make no peace. Its role was to register discord, to furnish a forum for invective, and to demonstrate that the lofty ideals of law, order, and justice in the community of nations could not be realized so long as the Super-Powers were fighting one another for mastery of the globe.

Box Score. The verdict of events at the close of the year was much more favorable to the U.S.S.R. than seemed likely in mid-summer, given the course of politics in France, Italy, and Germany, the "success" of the Marshall Plan, and the steadily rising tide of anti-Soviet sentiment in the Atlantic communities. This reversal of probabilities was due to the failure of the U.S.A. to weaken Soviet power in Eastern Europe (despite the Moscow-Belgrade schism), to wipe out the Communist guerrillas in Greece, or to save Chiang Kai-shek from crushing defeat at the hands of the Chinese Communists. French inability to suppress the rebels in Indochina, British difficulties with colonial revolt in Malaya, and Dutch aggression against the Republic of Indonesia in late December all furnished fuel for the fires of Communism and thereby strengthened the international position of the U.S.S.R. These developments in turn were partially attributable to the essentially negative character of the American-led campaign against Moscow and to Western reliance in many areas upon anti-Communist groups which had no popular support. The men of the Kremlin were thus encouraged in their belief that time was on their side and that American capitalism might yet break down under the strains imposed upon it by a global crusade against Communist sin.

In a *Pravda* interview of October 28, Stalin accused the Western Powers of repudiating the "agreement" of August 30 on Berlin and the "agreed draft decision" of Dr. Bramuglia because of their rejection of all cooperation. "Those gentlemen are obviously lending their support to a policy of aggression, to a policy of unleashing a new war. . . . (But this) can only end in an ignominious failure. . . . The horrors of the recent war are still too fresh in the memories of peoples and the public forces favoring peace are too strong for Churchill's pupils in aggression to overpower them and to set the course for a new war."

See COMMUNISM, UNITED NATIONS, and names of all States allied with, or hostile toward, the U.S.S.R.

See also, among the more notable books on the U.S.S.R. published in 1947-48, Edward Crankshaw, *Russia and the Russians* (Viking); Vera M. Dean, *The United States and Russia* (Harvard); Sir John Maynard, *Russia in Flux* (Macmillan); Rudolf Schlesinger, *The Spirit of Post-war Russia* (London); Harry Schwartz, *Russia's Post-war Economy* (Syracuse U.); David Shub, *Lenin* (Doubleday); Julian Towster, *Political Power in the U.S.S.R., 1917-1947* (Oxford); A. Y. Vyshinsky, *The Law of the Soviet State* (Macmillan); Bertram D. Wolfe, *Three Who Made a Revolution* (Dial).

—FREDERICK L. SCHUMAN

UNITARIANS. A movement in Congregationalism at the close of the 18th century, which confesses belief in one God in one person as opposed to

the Trinity. Total world membership: 2,100,000.

American Unitarian Association. Established in 1825, its National Conference was organized in 1865. The denomination has 365 churches, 460 ministers, and 75,000 members in the United States. Its Sunday or Bible schools have a membership of 20,000. Seven educational, and 12 benevolent institutions are maintained by the Church, which also has 150 workers engaged in humanitarian work in Europe. President, Rev. Frederick May Elliot; Treasurer, Frank B. Frederick; Secretary, Rev. Dana McL. Greeley. Headquarters: 25 Beacon St., Boston 8, Mass.

UNITED BRETHERN, Evangelical. This communion is a result of the organic union in 1946 of the former Evangelical Church and the former Church of the United Brethren in Christ. Both stem from the evangelistic movement in Pennsylvania in the early 19th century. Arminian in doctrine, the church is Methodist in government. As of Jan. 1, 1948, the group had 4,654 churches, 3,452 ministers, and 712,616 members in the United States. There are 89 foreign missionaries serving 30,984 members. The church maintains 11 educational institutions and 9 homes for the care of children and the aged. Church property is valued at \$77,800,653 while income from contributions totals \$21,436,029. General Conference is held quadrennially, the next being in 1950. Headquarters, U. B. Building, Dayton, Ohio.

UNITED CHURCH OF CANADA, The. The designation applied to the single body formed by the union, in 1925, of the Congregational, Methodist, and Presbyterian churches in Canada; the Methodist churches of Newfoundland and Bermuda also are included. In 1947 there were in Canada, Newfoundland, Bermuda, 6,580 preaching places (including home missions) in 2,708 pastoral charges; 780,234 communicant members; and 1,839,895 persons under pastoral care. A total of \$18,787,719 was raised for all purposes. At the Thirteenth General Council held in Montreal, Quebec, in September, 1948, the Rev. Willard Brewing, D.D., was chosen Moderator for the ensuing biennium. The Rev. Gordon A. Sisco, D.D., is General Secretary. Headquarters: 421 Wesley Building, Toronto 2B, Ont., Canada.

UNITED NATIONS (UN). The United Nations is an organization of States which have accepted the obligations contained in the Charter of the United Nations, drafted at the United Nations Conference on International Organization held at San Francisco from April 25 to June 26, 1945. The Charter was signed by representatives of 50 nations on June 26, 1945, and came into force on Oct. 24, 1945, according to its terms, after having been ratified by China, France, the U.S.S.R., the United Kingdom, the United States, and by a majority of the other signatory States.

The Charter established six principal organs of the United Nations: a General Assembly, a Security Council, an Economic and Social Council, a Trusteeship Council, an International Court of Justice, and a Secretariat.

United Nations Structure (as of January, 1949):

THE GENERAL ASSEMBLY

PRESIDENT

Dr. Herbert Vere Evatt, Australia

VICE PRESIDENTS

Dr. Wang Shih-chieh, China; Robert Schuman, France; Luis Padilla Nervo, Mexico; Zygmunt

Modzelewski, Poland; Andrei Y. Vyshinsky, U.S.S.R.; Ernest Bevin, United Kingdom; and George C. Marshall, United States.

MEMBER NATIONS

Afghanistan	Iraq
Argentina	Lebanon
Australia	Liberia
Belgium	Luxembourg
Bolivia	Mexico
Brazil	Netherlands
Burma	New Zealand
Byelorussian S.S.R.	Nicaragua
Canada	Norway
Chile	Pakistan
China	Panama
Colombia	Paraguay
Costa Rica	Peru
Cuba	Philippines
Czechoslovakia	Poland
Denmark	Saudi Arabia
Dominican Republic	Siam
Ecuador	Sweden
Egypt	Syria
El Salvador	Turkey
Ethiopia	Ukrainian S.S.R.
France	Union of South Africa
Greece	U.S.S.R.
Guatemala	United Kingdom
Haiti	United States
Honduras	Uruguay
Iceland	Venezuela
India	Yemen
Iran	Yugoslavia

COMMITTEES

General (Steering)—Composed of 14 members, namely the President of the Assembly, the 7 Vice Presidents, and the Committee chairmen listed below:

1. Political and Security.
Paul-Henri Spaak, Belgium
2. Economic and Financial.
Hernan Santa Cruz, Chile
3. Social, Humanitarian and Cultural.
Dr. Charles Malik, Lebanon
4. Trusteeship.
Nasrollah Entezam, Iran
5. Administrative and Budgetary.
L. Dana Wilgress, Canada
6. Legal.
Dr. Ricardo Alfaro, Panama

(These 6 committees are composed of representatives of all Member nations.)

THE SECURITY COUNCIL

PRESIDENT

The Presidency of the Security Council is held in turn by the members of the Security Council in the English alphabetical order of their names. Each President holds office for one calendar month.

MEMBERS

Argentina	Canada
(Until Jan. 1, 1950)	(Until Jan. 1, 1950)
China	Cuba
(Permanent)	(Until Jan. 1, 1951)
Egypt	France
(Until Jan. 1, 1951)	(Permanent)
Norway	Ukrainian S.S.R.
(Until Jan. 1, 1951)	(Until Jan. 1, 1950)
U.S.S.R.	United Kingdom
(Permanent)	(Permanent)
	United States
	(Permanent)

MILITARY STAFF COMMITTEE

The Chiefs of Staff (or their representatives) of China, France, the U.S.S.R., the United Kingdom, and the United States.

ATOMIC ENERGY COMMISSION

The members of the Security Council and Canada when it is not a member of the Security Council.

COMMISSION FOR CONVENTIONAL ARMAMENTS

The members of the Security Council.

THE ECONOMIC AND SOCIAL COUNCIL

PRESIDENT

Dr. Charles Malik, Lebanon

MEMBERS

Australia (Until Jan. 1, 1951)	Belgium (Until Jan. 1, 1952)
Brazil (Until Jan. 1, 1951)	Byelorussian S.S.R. (Until Jan. 1, 1950)
Chile (Until Jan. 1, 1952)	China (Until Jan. 1, 1952)
Denmark (Until Jan. 1, 1951)	France (Until Jan. 1, 1952)
India (Until Jan. 1, 1952)	Lebanon (Until Jan. 1, 1950)
New Zealand (Until Jan. 1, 1950)	Peru (Until Jan. 1, 1952)
Poland (Until Jan. 1, 1951)	Turkey (Until Jan. 1, 1950)
U.S.S.R. (Until Jan. 1, 1951)	United Kingdom (Until Jan. 1, 1951)
United States (Until Jan. 1, 1950)	Venezuela (Until Jan. 1, 1950)

COMMISSIONS OF THE ECONOMIC AND
SOCIAL COUNCIL

1. Economic and Employment Commission (15 members)
 - (a) Sub-Commission on Employment and Economic Stability (7 members)
 - (b) Sub-Commission on Economic Development (7 members)
2. Transport and Communications Commission (15 members)
3. Fiscal Commission (15 members)
4. Statistical Commission (12 members)
 - (a) Sub-Commission on Statistical Sampling (5 members)
 - (b) Committee on Industrial Classification (6 members)
5. Population Commission (12 members)
6. Social Commission (18 members)
7. Commission on Human Rights (18 members)
 - (a) Sub-Commission on Freedom of Information and of the Press (12 members)
 - (b) Sub-Commission on Prevention of Discrimination and Protection of Minorities (12 members)
8. Commission on the Status of Women (15 members)
9. Commission on Narcotic Drugs (15 members)
10. Economic Commission for Europe (18 members)
11. Economic Commission for Asia and the Far East (13 members and 6 associate members)
12. Economic Commission for Latin America (24 members)

THE TRUSTEESHIP COUNCIL

PRESIDENT

Liu Chi-chi, China

MEMBERS

Australia	} Administering Trust Territories
Belgium	
France	
New Zealand	
United Kingdom	
United States	
China	} Permanent members of the Security Council not administering Trust Territories
U.S.S.R.	
Iraq	} Elected by the General Assembly to serve until Jan. 1, 1950
Mexico	
Costa Rica	} Elected by the General Assembly to serve until Jan. 1, 1951
Philippines	

THE INTERNATIONAL COURT OF JUSTICE

PRESIDENT

José Gustavo Guerrero (El Salvador) *

VICE PRESIDENT

Jules Basdevant (France)

JUDGES

Nine-Year Term of Office, terminating on Feb. 5, 1955:

Alejandro Alvarez (Chile)
 José Philadelpho de Barros e Azevedo (Brazil)
 Jules Basdevant (France)
 José Gustavo Guerrero (El Salvador)
 Sir Arnold Duncan McNair (United Kingdom)

Six-Year Term of Office, terminating on Feb. 5, 1952:

Isidro Fabela Alfaro (Mexico)
 Green Haywood Hackworth (United States)
 Helge Klæstad (Norway)
 Sergei Borisovitch Krylov (U.S.S.R.)
 Charles De Visscher (Belgium)

Three-Year Term of Office, terminating on Feb. 5, 1949: *

Abdel Hamid Badawi Pasha (Egypt)
 Hsu Mo (China)
 John Erskine Read (Canada)
 Bohdan Winiarski (Poland)
 Milovan Zoričić (Yugoslavia)

THE SECRETARIAT

SECRETARY GENERAL

Trygve Halvdan Lie (Norway)

ASSISTANT SECRETARIES GENERAL

Arkady Alexandrovitch Sobolev (U.S.S.R.)—Assistant Secretary General in charge of Security Council Affairs
 Arthur David Kemp Owen (United Kingdom)—Assistant Secretary General in charge of Economic Affairs
 Henri Laugier (France)—Assistant Secretary General for Social Affairs
 Victor Chi-Tsai Hoo (China)—Assistant Secretary General in charge of the Department of Trusteeship and Information from Non-Self-Governing Territories

* The General Assembly and the Security Council at simultaneous but independent elections on Oct. 22, 1948, reelected these Judges to a Nine-Year Term of Office, terminating on Feb. 5, 1958.

Benjamin A. Cohen (Chile)—Assistant Secretary General, Department of Public Information
 Ivan Kerno (Czechoslovakia)—Assistant Secretary General for Legal Affairs
 Adrian Pelt (The Netherlands)—Assistant Secretary General for Conference and General Services
 Byron Price (United States)—Assistant Secretary General for Administrative and Financial Services

SPECIALIZED AGENCIES

The formally constituted agencies are: International Labour Organization (ILO); Food and Agriculture Organization of the United Nations (FAO); United Nations Educational, Scientific and Cultural Organization (UNESCO); International Civil Aviation Organization (ICAO); International Bank for Reconstruction and Development; International Monetary Fund; Universal Postal Union (UPU); International Telecommunications Union (ITU); World Health Organization (WHO); and International Refugee Organization (IRO).

Two other agencies exist in preparatory form: International Trade Organization (ITO), which is working through an Interim Commission; and International Maritime Consultative Organization (IMCO), which is working through a Preparatory Committee. The World Meteorological Organization (WMO), which is in the process of formation, will take the place of the International Meteorological Organization (IMO), now functioning.

Events, 1948. During the year 1948, the United Nations continued growing and taking on new functions, and its organs and subsidiary bodies were able to devote more time to substantive rather than organizational matters. During the year Burma became the 58th member of the organization. The General Assembly held its second special session in New York from April 16 to May 14. The first part of its third session was held in Paris from September 21 to December 12.

The Security Council held 168 meetings in 1948 (11 of which were private). Of these meetings 128 were held at the headquarters of the United Nations at Lake Success, and 40 in Paris where the Council moved for the duration of the first part of the third session of the General Assembly. After the Assembly adjourned on December 12, the Council continued to meet in Paris until the end of the year. It resumed its work at Lake Success on Jan. 7, 1949. The Economic and Social Council held its sixth session at Lake Success from February 2 to March 11, and its seventh session at Geneva from July 19 to August 29. The Trusteeship Council held the second part of its second session from February 18 to March 10, the third part of its second session from April 20 to May 5, and its third session from June 16 to August 5. All meetings of the Council were held at Lake Success. The International Court of Justice delivered its first advisory opinion and continued its study of the Corfu Channel case.

THE GENERAL ASSEMBLY

The General Assembly consists of all of the Members of the United Nations. It may discuss any matters within the scope of the Charter or relating to the functions and powers of any organ of the United Nations, and may make recommendations on any such questions or matters excepting those of which the Security Council is seized.

Second Special Session. The Security Council on April 1 (see *Security Council* below) adopted a

resolution requesting the Secretary General to convene a special session of the General Assembly (the Assembly's second) to consider further the question of the future government of Palestine.

The Assembly convened on April 16. On April 19, it referred the further consideration of Palestine's future government to its First (Political and Security) Committee, which debated at length a United States draft trusteeship agreement, circulated as a working paper. The First Committee's debates showed conclusively that it would be impossible to muster a two-thirds vote in favor of the United States proposals for trusteeship. On May 3, the United Kingdom representative proposed a temporary provisional regime to hold assets, to further mediation, and to work toward a solution.

On May 4, the Committee established a sub-committee and charged it with formulating a proposal for a provisional regime in Palestine. The sub-committee was also to take into account whether such a proposal was likely to commend itself to the Jewish and Arab communities, whether it could be implemented and made workable, and its approximate cost. Another sub-committee was established on May 11 to deal with the question of further measures for the protection of the City of Jerusalem and its inhabitants. It consulted with the Arab Higher Committee and the Jewish Agency.

While the Assembly was discussing the proposals of the First Committee and its subsidiary bodies, the British mandatory administration over Palestine came to an end (12:01 a.m., May 15 in Palestine; 6:01 p.m., May 14 in New York). Shortly afterwards, the United States delegation confirmed its Government's *de facto* recognition of the new Jewish State of Israel, proclaimed by Jewish authorities immediately after the termination of the British mandate over Palestine.

Two and a half hours after the British mandatory administration in Palestine came to an end, the second special session of the General Assembly adjourned. During its final hours, the Assembly authorized the appointment of a United Nations Mediator, who was to offer his good offices to arrange for the operation of common services in Palestine, to protect the Holy Places, and to promote a peaceful adjustment of the future situation. (See *Security Council* below.)

The Assembly failed, however, to obtain the necessary majority vote to establish a temporary regime for Jerusalem. The Palestine Commission, relieved by the Assembly at its second special session from the further exercise of responsibilities, on May 17 adjourned *sine die*.

On May 20, a committee of the Assembly, composed of representatives of China, France, the U.S.S.R., the United Kingdom, and the United States, chose Count Folke Bernadotte (Sweden), the Vice President of the International Red Cross, as United Nations Mediator in Palestine.

First Part of Third Regular Session. The Advisory Committee on the Site of the third session of the General Assembly—established at the Assembly's second session—agreed unanimously, on the basis of data submitted, that Paris was the most suitable location for the site of the third regular session. Accordingly, the Assembly held the first part of its third session there. The French Government offered the use of the Palais de Chaillot, generally referred to as the Trocadero. At its Paris session, the Assembly worked for nearly 3 months on a great number and variety of world problems. It could not, however, dispose of all the items on its agenda, and it therefore decided to hold a second part of this session in New York beginning Apr. 5, 1949.

The Assembly elected Cuba, Norway, and Egypt to the Security Council in succession to Belgium, Colombia, and Syria. China, France, India, Peru, Belgium, and Chile were elected to the 6 vacancies on the Economic and Social Council. The Assembly also approved recommendations of the Fifth Committee concerning vacancies on a number of subsidiary bodies, including the Advisory Committee on Administrative and Budgetary Questions, the Committee on Contributions, the Board of Auditors, and the Investments Committee. The Assembly approved the 1949 budget of the United Nations at U.S.\$43,487,128.

The main subjects deferred to the second part of its third session were the question of the former Italian colonies, Freedom of Information, the Report of the Security Council, establishment of a United Nations Guard Force, Treatment of Indians in South Africa, the question of repatriation, resettlement, and immigration of refugees and displaced persons.

The following were among the main decisions taken by the General Assembly:

Political and Security Questions. The General Assembly, deeply concerned over the impasse which had been reached in the work of the Atomic Energy Commission, by a vote of 40 to 6, with 4 abstentions, adopted a resolution on November 4 approving the general findings, recommendations, and specific proposals of the Commission as constituting the necessary basis for establishing an effective system of international control.

The Assembly also asked the 6 permanent members of the Commission—the permanent members of the Security Council and Canada—to consult together in order to determine whether there exists a basis for agreement on international control, and to report to the Assembly the results of their consultation not later than its next regular session.

It called upon the Atomic Energy Commission to resume its sessions, to survey its program of work, and to proceed to the further study of those subjects in its program which it considers to be practicable and useful. By a vote of 40 to 6, with 5 abstentions, the Assembly rejected a U.S.S.R. proposal for simultaneously prohibiting atomic weapons and establishing international control.

Recognizing the fact that 3 years after victory the Great Powers have not yet concluded the peace treaties, and that the disagreement in this matter is of vital importance to all of the United Nations, the Assembly on November 3 made a unanimous appeal to the Great Powers. The Assembly appeal, which had been sponsored by Mexico, called upon the Great Powers to compose their differences and establish a lasting peace. Specifically, the appeal endorsed the Yalta declarations of February, 1945; recommended the Powers signatories to the Moscow agreements of December, 1945, and the Powers which subsequently acceded to the agreements to redouble their efforts to secure peace; and recommended the Great Powers to associate with them, in the effort to secure peace, the States which had subscribed and adhered to the Washington Declaration of January, 1942.

Lengthy discussions on reduction of armaments and armed forces were touched off by a U.S.S.R. proposal calling for a one-third reduction of armaments and armed forces by the 5 permanent members of the Security Council within one year, and for prohibition of atomic weapons and for establishment of a control organ to supervise implementation of both measures. This proposal, however, was rejected by the Assembly by a vote of 6 in favor, 33 against, and 5 abstentions.

A Polish resolution similar to the Soviet resolution but specifying that the basis for arms reduction should be the Powers' strength as of Jan. 1, 1948, was likewise rejected by a vote of 6 in favor, 33 against, with 5 abstentions.

A composite resolution was finally adopted on November 19. This declares that the aim of the reduction of conventional armaments and armed forces can be attained only in an atmosphere of real and lasting improvements in international relations, which implies in particular the application of control of atomic energy involving the prohibition of the atomic weapon.

It recommends that the Security Council should pursue the study of such regulation and reduction through the Commission for Conventional Armaments in order to obtain concrete results as soon as possible. It also proposed that the Commission should devote first attention to formulating proposals for the receipt, checking, and publication, by an international organ of control within the framework of the Security Council, of full information to be supplied by all Member States on their effective armed forces and armaments. The resolution was adopted by a vote of 43 to 6, with 1 abstention.

On November 27, the General Assembly adopted a resolution on the Balkan situation which called on Albania, Bulgaria, and Yugoslavia to cease forthwith rendering support or assistance in any form to the Greek guerrilla forces. The 3 northern neighbors of Greece were warned that continued aid to the guerrillas endangers peace in the Balkans, threatens the political independence and territorial integrity of Greece, and is inconsistent with the purposes and principles of the Charter. All Members of the United Nations were asked to refrain from any action designed to assist, directly or through other governments, any armed group fighting against the Greek Government.

The Assembly resolved to maintain for a further year the United Nations Special Committee on the Balkans. It decided that the Special Committee should have its principal headquarters in Greece. With the cooperation of the government or governments concerned, the Committee may perform its functions in such places as it may deem appropriate for the fulfillment of its mission. The Committee was authorized to consult, in its discretion, with the Interim Committee.

In another resolution the Assembly called on Greece, on the one hand, and Albania and Bulgaria, on the other, to renew diplomatic relations. The Assembly recommended that Greece, Albania, Bulgaria, and Yugoslavia renew the previously operative conventions for the settlement of frontier questions or conclude new ones, and that they settle the question of refugees in the spirit of mutual understanding.

On the same day, the Assembly adopted without objection a resolution dealing with the fate of Greek children who are at present outside their own country. It asked for the immediate return to their homeland of all such children who themselves ask to be returned, or whose parents or close relatives request their return. The International Red Cross, the Red Crescent, and National Red Cross organizations were asked to assist in this repatriation.

Another unanimous action taken by the Assembly called for conciliation talks to be held in Paris, between the representatives of Albania, Bulgaria, Yugoslavia, and Greece, under the auspices of the United Nations and in the immediate presence of the President of the Assembly, the Secretary Gen-

eral, and the Chairman, and the Rapporteur of the First Committee.

In a statement issued on December 4, Dr. Evatt, the President of the Assembly, said the talks had made very substantial progress and that a draft agreement had been prepared after the acceptance of many points by all parties concerned. Dr. Evatt expressed the hope that the work of conciliation begun so successfully would be completed at the Assembly's resumed session in New York in April. Meanwhile, the good offices of the President and the Secretary General were to be available to all 4 parties concerned in the question.

By a vote of 40 in favor, 6 against, with 1 abstention, the General Assembly on December 3 decided to reestablish its Interim Committee. In taking this action despite the strenuous opposition of the U.S.S.R. and 5 other Members, the Assembly declared that effective performance of its duties under the Charter for promoting and adjusting situations likely to impair general welfare and friendly relations between nations made such a body necessary. At the same time, the Assembly recognized fully that primary responsibility for prompt and effective action for the maintenance of international peace and security rests with the Security Council. As in the last year, the Interim Committee, now reestablished until the 1949 regular session, is to be composed of one representative from each Member State. It is to be a subsidiary organ of the Assembly.

Opposition to this resolution was on the grounds, broadly, that it was unconstitutional, unnecessary, and a device to by-pass the Security Council. The prevailing opinion, however, was that the record of last year had justified the proposal, that the Committee could provide continuous contact and be a means of harmonizing conflicting views and interests, and that it could, by its preliminary studies, save the time of the Assembly and improve the value of the Assembly's decisions.

The Assembly approved a number of resolutions on the admission of new Members. One resolution recommended that members of the Security Council should act in accordance with the opinion on membership as given by the International Court of Justice (see section on the Court below).

In another resolution, the Assembly noted a general sentiment in favor of the universality of the United Nations and asked the Security Council to reconsider individually the hitherto unsuccessful applications of 12 States—Albania, Austria, Bulgaria, Ceylon, Finland, Hungary, Ireland, Italy, Portugal, the People's Republic of Mongolia, Rumania, and Transjordan.

The Assembly itself then dealt with individual applications. It determined that Finland, Ireland, Italy, Portugal, and Transjordan, whom 9 Council members had supported, fulfill the requirements of Article 4, and should therefore be admitted to Membership. It requested the Council to reconsider these applications, in the light of this determination and of the Court's advisory opinion. It also reaffirmed the view that opposition to these applications was based on grounds not included in Article 4 of the Charter.

In another resolution, the Assembly, pointing out that 9 members of the Security Council supported Ceylon's application for membership, and considering that the records of the discussions in the *ad hoc* Political Committee revealed a unanimous opinion that Ceylon is a peace-loving State and should therefore be admitted to membership in the United Nations, requested the Security Council to reconsider at the earliest possible moment the ap-

plication of Ceylon. The Assembly also requested reconsideration of Austria's application, which had been favored by 8 Security Council members.

The General Assembly on December 11 adopted a resolution on Palestine. It created a three-member Conciliation Commission and instructed it to take steps to assist the governments and authorities concerned to achieve a final settlement of all questions outstanding between them. The Commission was to assume any necessary functions of the United Nations Mediator; was to carry out specific functions and directives, which may be given by the Assembly or by the Security Council; and was to undertake, upon the request of the Security Council, any functions now assigned by the Council to the Mediator or the United Nations Truce Commission. The Assembly called upon the Governments and authorities concerned to seek agreement by negotiations conducted either with the Conciliation Commission—which was requested by the Assembly to begin its functions at once—or directly, with a view to final settlement of all questions.

In another part of the resolution, the Assembly resolved that the Holy places in Palestine, including Nazareth, should be protected and free access to them assured, and that arrangements to this end should be under effective United Nations supervision. The Commission was to present to the next regular session recommendations concerning Holy places in Jerusalem, and was, in addition, to call on the political authorities to give formal guarantees regarding the protection of Holy places in the rest of Palestine.

The same resolution declared that, in view of its association with three world religions, the Jerusalem area should be accorded special and separate treatment from the rest of Palestine and should be placed under effective United Nations control. The Security Council was requested to take further steps to ensure the demilitarization of the area at the earliest possible date, and the Conciliation Commission was instructed to present at the next session detailed proposals for a permanent international regime—providing for the maximum local autonomy for distinctive groups consistent with the special international status of the Jerusalem area. The Assembly also called for the freest possible access to Jerusalem by road, rail, or air, pending agreement on more detailed arrangements, and instructed the Commission to report to the Security Council any attempt to impede such access. The Commission was also instructed to seek arrangements to facilitate the economic development of this area.

The Assembly resolved that the refugees wishing to return to their homes and live at peace with their neighbors should be permitted to do so at the earliest practicable date. Compensation is to be paid for the property of those choosing not to return and for damage to property. The Commission was instructed to facilitate the repatriation, resettlement, and economic and social rehabilitation of the refugees and the payment of such compensation.

The Assembly resolution authorized the Commission to have its official headquarters at Jerusalem, and instructed it to render progress reports periodically to the Secretary General for transmission to the Security Council and Member States. Later the Assembly accepted the proposal submitted by 4 of the 5 permanent members of the Security Council that the Conciliation Commission should be composed of France, Turkey, and the United States. The U.S.S.R. had opposed this

choice, wishing to see a Commission of 5 members, one of which should be Poland.

On December 12, the General Assembly, by a vote of 48 in favor, 6 against, and with 1 abstention, adopted a resolution on Korea. The Assembly endorsed the Government elected in Southern Korea under the observation of the United Nations Temporary Commission on Korea.

It set up a new Commission on Korea, consisting of Australia, China, El Salvador, France, India, the Philippines, and Syria, for the purpose of good offices and observation. The resolution further recommended that Member States and other nations, in establishing their relations with the Government of Korea, take into consideration the Assembly's declaration that a lawful government had been established in Korea. It also recommended that the occupying Powers withdraw their occupation forces from Korea as early as practicable.

Economic and Social Questions. A significant action taken by the Assembly at its Paris session was the adoption of a Universal Declaration of Human Rights. Forty-eight Members voted for the Declaration, 9 abstained, and none voted against it. Among those who abstained was the U.S.S.R., whose chief representative, Andrei Vyshinsky, declared that many improvements were essential and the U.S.S.R. thought it necessary to give the subject more time and effort. The Declaration, adopted on December 10, defines on an international basis the inherent freedoms and rights of all men.

The General Assembly, considering the adoption of the Declaration an historic act destined to consolidate world peace, and considering that the text of the Declaration should be disseminated among all peoples of the world, adopted a resolution requesting the Secretary General to publish and distribute texts in all possible languages and by every means at his disposal. Specialized agencies and non-governmental organizations were invited to do their utmost to bring the Declaration to the attention of their members.

Articles dealing with the rights of petition and the rights of minorities were not included in the Declaration. To meet this omission the Assembly passed two further resolutions, asking the Economic and Social Council, through the Commission on Human Rights, to give further examination to the problem of petitions and of minorities when studying a draft Convention on Human Rights.

On October 8, the General Assembly unanimously approved a Protocol to bring new synthetic narcotic drugs within the scope of the 1931 Limitation Convention and thus strengthened international control of narcotic drugs. The Protocol supplements the 1931 Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs by placing under international control drugs, particularly synthetic drugs, capable of producing addiction, but not covered by the 1931 Convention. The Protocol limits by international agreement the manufacture of such new drugs to the world's legitimate requirements for medical and scientific purposes, and regulates their distribution. On November 19, representatives of 41 Members of the United Nations and 6 non-Members signed the Protocol at the Palais de Chaillot; since then 5 more countries have signed.

On December 8, the General Assembly voted to continue the United Nations Appeal for Children (see below) during 1949, but on a new basis. By the action of the Assembly, the Appeal's administrative organization will be placed under the United Nations International Children's Emergency Fund and all future proceeds of collections will go

entirely to this agency. UNICEF will become responsible for the coordination of all national campaigns conducted by governmental and non-governmental appeals for children. The Children's Fund, in addition, will be designated as the agency with special responsibility for the emergency needs of children in all parts of the world.

Also on December 8, the Assembly adopted a resolution, which, *inter alia*, drew the attention of Members to the necessity for prompt contributions from governments to enable procurement of supplies and, generally, to meet the objectives for which the Fund was established.

The Assembly on December 4 adopted a number of resolutions regarding the needs of underdeveloped countries. In one resolution, the Assembly recommended that the Economic and Social Council and the specialized agencies give further and urgent attention to all aspects of the economic development of underdeveloped countries. It asked the Council to report to the next session on measures already taken and proposals for further measures. The resolution added, in particular, the hope that the International Bank will take immediate steps for the early realization of development loans, especially in the underdeveloped areas.

In another resolution the Assembly authorized the Secretary General to give, at the request of Member Governments, several kinds of assistance. Where appropriate, this will be done through the related specialized agencies. Broadly, the scheme comprises: arranging for international teams of experts; arranging facilities for training experts abroad; and obtaining technical personnel, equipment and supplies. Organization of seminars on special problems of economic development and exchange of technical information are included within the scope of the scheme. The resolution laid down the basis on which the costs of these services are to be borne. It also provided that such assistance should not be a means of foreign economic or political interference. The Secretary General was requested to report to the Economic and Social Council on measures taken under this scheme.

In a third resolution to aid underdeveloped countries, the Assembly requested the International Labour Office to consider how best to facilitate the admission to world training centers of technical workers and other qualified personnel from these countries.

Turning to the needs of one particular underdeveloped region, the Assembly in a further resolution asked the Economic and Social Council to expedite consideration of the Establishment of an Economic Commission for the Middle East.

A resolution on wastage of food was adopted by the Assembly on December 8. The resolution put the blame for the present undernourishment of large numbers of people on insufficient production, wastage, war-devastation, underdevelopment of large areas, lack of purchasing power, and fear of unstable prices. To remedy this situation, the Assembly declared that steps should be taken, especially in underdeveloped and war-devastated countries, to raise productivity, avoid losses, and improve marketing and distribution. Second, burdensome taxes which hamper sale and consumption of foodstuffs must be reduced appreciably. Further, the resolution pointed out, profiteering in the marketing of essential foodstuffs is an obstacle to equitable distribution.

The Assembly invited Member States to give high priority to measures to remove these difficulties. It called on the Economic and Social Council, in consultation with the FAO and other specialized

agencies, to continue efforts to improve world food production and trade. In doing so, the Assembly resolution urged that special consideration should be given to the technical, financial, and supply problems of underdeveloped and war-devastated countries. Other measures to raise the nutrition levels of undernourished population groups should also be studied.

On November 19, the Assembly unanimously adopted plans for a \$29.5 million voluntary relief program for over half a million Palestinian refugees, made homeless by the fighting in the Holy Land. The Secretary General was authorized to advance up to \$5 million from the United Nations working capital fund, in order to launch as soon as possible a campaign for voluntary contributions, either in money or in kind. Contributions will also be accepted from non-Member States.

The Assembly appealed further for active co-operation from such specialized agencies as the World Health Organization, the International Refugee Organization, the Food and Agriculture Organization, and other appropriate international agencies. To plan and administer the program, the Assembly created the new post of Director for the United Nations Palestine Refugee Relief. To this position the Secretary General appointed on December 4, Stanton Griffis, United States Ambassador to Egypt, who assumed his duties immediately.

The subject of a Declaration of Old Age Rights came briefly before the Assembly on a resolution from its Third Committee. The representative of Argentina had introduced the matter by proposing a draft resolution. The Committee decided to communicate the draft to the Economic and Social Council for study and report. This was agreed to by the Assembly on December 4.

The General Assembly on November 18 recommended that the Economic and Social Council continue its examination of the activities of the organs having responsibilities in the field of coordination, with a view to suggesting further improvements and the possibility of restricting to a minimum consistent with efficiency the number of specialized agencies in the framework of the United Nations.

The Assembly at the same time requested the Secretary General, in consultation with the Advisory Committee on Administrative and Budgetary Questions and the Administrative Committee on Coordination, to continue the efforts further to improve administrative and budgetary coordination between the United Nations and the specialized agencies, including consideration of the possibility of developing a joint system of external audit and for common collection of contributions.

Trusteeship Questions and Matters Affecting Non-Self-Governing Territories. On November 18, the General Assembly approved 4 resolutions dealing with trusteeship questions. In the first resolution, the Assembly took note of the Trusteeship Council's report, and recommended that the Council consider at its next session the comments and suggestions made during the Assembly's discussion of this report.

The second resolution dealt with administrative unions affecting Trust Territories. The resolution noted that the Trusteeship Agreements for some Trust Territories authorize the Administering Authority concerned to constitute the Territory into a customs, fiscal, or administrative union or federation with adjacent territories under its sovereignty or control. The resolution recalled, however, that the Assembly approved these Agreements on the assurance of the Administering Authorities that the unions would not involve annexation of the

Trust Territories in any sense or have the effect of extinguishing their status. The resolution then recommended five measures for the Trusteeship Council to undertake. The Council is to investigate in all its aspects the question of administrative unions with special reference to unions already constituted or proposed, and in the light of the terms of Trusteeship Agreements and the assurances given by the Administering Authorities in this connection.

In the light of this investigation, the Council is to recommend such safeguards as it may deem necessary to preserve the distinct political status of the Trust Territories. Whenever appropriate, an advisory opinion may be requested of the International Court of Justice as to whether such unions accord with the Charter and the Trusteeship Agreements. The Council is to invite the Administering Authorities to make available to the Council such information relating to administrative unions as will facilitate the investigation by the Council. Finally, the Council is to report to the next regular Assembly session on the result of its investigations and on action taken.

The third resolution dealt with educational advancement in Trust Territories. The resolution took note of the plans of the Administering Authorities to extend educational facilities in their respective Territories. The Assembly recommended that the Trusteeship Council propose to the Administering Authorities that primary education should be free and that access to higher education should not be dependent on means. Among other things, the Council was requested to study a further expansion of existing facilities for higher education in Africa, including the possibility of establishing a university in 1952 to meet the needs of the inhabitants of the Trust Territories in Africa.

In the fourth resolution, the Assembly recommended that the Administering Authorities take all measures to improve and promote the political, economic, social, and educational advancement of the inhabitants of Trust Territories. It also recommended that they take all possible steps to accelerate progressive development towards self-government or independence.

On November 3, the Assembly adopted a number of resolutions dealing with information from non-self-governing territories. The Assembly reconstituted the Special Committee to examine information transmitted under Article 73 (e) of the Charter. Such a committee functioned in 1948. The Assembly decided that a similar body should meet in 1949—not later than three weeks from the opening of the next regular session—and charged it with examining and reporting on the information received. The Special Committee is composed of the following elected members: Brazil, China, the Dominican Republic, Egypt, India, Sweden, the U.S.S.R., and Venezuela; and the following Members transmitting information: Australia, Belgium, Denmark, France, the Netherlands, New Zealand, the United Kingdom, and the United States.

Another resolution, initiated by India, noted that in respect of certain non-self-governing territories, the Member States concerned did not transmit information in 1947 or 1948 and have not furnished any explanation of the omission. The resolution welcomed any development of self-government which might have taken place but added that it was essential that the United Nations should be informed of any change in constitutional position and status as a result of which the government responsible thought it unnecessary to transmit information. The Members concerned were therefore requested by the resolution to give the Secretary

General full information on such constitutional changes.

Another resolution adapted and amplified earlier resolutions in order to secure the most up-to-date information and avoid duplication. It also set up a new system for the Secretary General's summaries and analyses of the information. In two other resolutions the Assembly adopted recommendations for closer liaison between the Special Committee and the Economic and Social Council, and for the counsel and assistance of the specialized agencies.

The future of South-West Africa was discussed in the Assembly for the third year in succession. In a resolution adopted on November 26 by 43 votes to 1, with 5 abstentions, the Assembly maintained its earlier position that South-West Africa should be brought within the Trusteeship System. It noted with regret that the Union of South Africa had not complied with the recommendation to this effect first made in 1946 and reaffirmed in 1947.

The resolution further took note of the Union Government's statement that it would continue to administer the Territory in the spirit of the League of Nations mandate. It also noted the Union Government's assurances that its proposals for closer association between South-West Africa and South Africa did not mean incorporation and would not mean absorption of the Territory by the administering authority. The resolution recommended, too, that until it reaches an agreement with the United Nations on the future of South-West Africa, the Union Government should continue to furnish information about the Territory annually. The Trusteeship Council was requested to continue to examine such information and to submit its observations on it to the General Assembly.

Administrative Questions. The General Assembly adopted the annual budget and scale of contributions for 1949, approved supplementary estimates for 1948, and maintained the Working Capital Fund at \$20 million. It accepted the financial report and accounts for the financial period ended Dec. 31, 1947, for the United Nations and for the International Children's Emergency Fund, and it took note of the second annual report of the Staff Benefit Committee to the Assembly.

It requested the Secretary General to pursue the inquiries and negotiations which he had already initiated with respect to the idea of establishing a United Nations postal administration—which the Assembly approved in principle—and requested him to present a report to the next regular session of the Assembly. It noted with approval the progress made by the Secretary General in the field of geographical distribution of the staff, and adopted—beginning Jan. 1, 1949—a staff assessment plan.

The Assembly approved in principle the establishment of a United Nations telecommunications system and authorized the Secretary General to present to the Assembly at its regular session of 1950 such recommendations as he deems necessary to establish such a system.

It approved the Agreement between the Secretary General and the Director General of the United Nations Relief and Rehabilitation Administration relating to the transfer to the United Nations of the residual assets and activities of UNRRA, entered into on Sept. 27, 1948. It also resolved that the credits in the amount of \$10,809,529 arising from the transfer of the assets of the League of Nations to the United Nations should be made available to the Member States designated by the League of Nations in the percentages determined by the League of Nations.

The Assembly noted with satisfaction the con-

clusions of the Loan Agreement (approved by the Congress of the United States and signed by the President in August) for \$65 million between the United Nations and the United States, and expressed its appreciation of the cooperation extended by the Government of the United States, the State of New York, and the City of New York. The Secretary General was requested to report to the fourth regular session on the progress of the construction of the headquarters.

The Assembly resolved that an International Center for Training in Public Administration should be established under the direction of the United Nations. It requested the Secretary General to report detailed arrangements for such a center to the Economic and Social Council for consideration, and requested him to include in his budget estimates for the financial year 1950 a program implementing the objectives of the resolution.

Finally, the Assembly resolved that Spanish be included as a working language of the Assembly.

Legal Questions. What Dr. Evans, President of the Assembly, described as "a significant advance in the development of international criminal law" was made on December 9, when, at a plenary meeting, the Assembly gave unanimous approval to the Convention on Genocide. The vote was 55 to 0, with no abstentions.

The Convention outlaws genocide as a crime under international law, whether it is committed in time of peace or in war. It binds the Contracting Parties to enact the necessary legislation both to prevent and punish the crime; defines genocide (destruction, in whole or in part, of a national, ethnical, racial, or religious group), and makes the crime itself as well as conspiracy, incitement or the attempt to commit it, or complicity in the act, punishable. The Contracting Parties further pledge themselves to grant extradition, if necessary, in accordance with their laws and treaties in force. This Convention was signed by 20 States, subject to ratification, on December 12.

The Assembly further approved a resolution inviting the International Law Commission (see below) to study the question of establishing an international judicial organ for the trial of those charged with genocide, giving particular attention to the suggestion of establishing a Criminal Chamber of the International Court of Justice.

In a second resolution, the Assembly recommended Parties to the Convention which administer dependent territories to take measures to extend the provisions to those territories as soon as possible.

The Assembly on November 18 voted to transfer to the United Nations the functions and powers exercised by the League of Nations under the international convention relating to economic statistics. The resolution approved the Protocol, and urged Member States who were parties to the 1928 League Convention to sign the Protocol and give effect to its provisions. The draft resolution contained a paragraph which directed that no action on this subject should be taken relating to Spain so long as the Franco Government is in power. This provision was deleted, however, on an amendment by Argentina, the voting being 21 to 14, with 13 abstentions. Many representatives who voted for the amendment explained that they had done so on technical grounds, Spain not having been a signatory of the League Convention of 1928.

On December 3, the Assembly, by unanimous decision, transferred to the United Nations certain functions in regard to the suppression of traffic in

women and children and in obscene literature. Previously, these functions of a secretarial character were exercised by the French Government in accordance with international agreements and conventions devised in 1904 and 1910.

Under the Charter, all Member States are obligated to register with the Secretariat every treaty and international agreement entered into by them after the coming into force of the Charter. At the last regular session, the Assembly drew attention to the Members of this obligation. Six hundred and fourteen treaties or international agreements, submitted by 22 Governments, and two specialized agencies, had been received, the Secretary General reported, as of July 1, 1948.

On November 3, the Assembly unanimously noted that relatively few treaties and other international agreements had been registered to date, and that less than half of the Members had registered any treaties or agreements. It requested each Member to take immediate steps to fulfil its obligation under the Charter. In a second resolution, the Assembly instructed the Secretary General to take all necessary steps to ensure that registered treaties or agreements be published with the least possible delay, and that the translations reach the highest possible level of accuracy and precision.

On October 16 the Assembly passed a resolution initiated by Argentina, inviting the Secretary General of the Organization of American States to attend all future sessions of the General Assembly as an observer.

The General Assembly on December 3 adopted two resolutions regarding permanent missions to the United Nations. The first of these noted that since the creation of the United Nations the practice developed of establishing at the seat of the organization permanent missions of Member States. In order to regulate the submission of credentials of permanent representatives, the Assembly recommended that the credentials of the permanent representatives should be issued either by the head of the State, or by the head of the Government, or by the Minister of Foreign Affairs, and should be transmitted to the Secretary General.

The second resolution instructed the Secretary General to study all questions relating to permanent missions, including those to the European Office, and, if necessary, to report on this subject to the next regular Assembly session.

The General Assembly on December 3, taking into consideration the series of tragic events which had lately befallen agents of the United Nations in the performance of their duties, decided to submit the following two questions to the International Court of Justice for an advisory opinion: (1) Does the United Nations have the legal capacity to bring an international claim against a State for damages caused to the United Nations, and to the victim or to persons entitled through him? and (2) If the United Nations can claim for damages to the victim, how is its claim to be reconciled with the rights of the State of which the victim is a national? The Assembly asked the Secretary General to report to the next session with proposals prepared in the light of the Court's opinion.

Twenty-four countries, the Secretary General reported at the beginning of the session, had acceded to the Convention on Privileges and Immunities of the United Nations. The Assembly on December 8, again urged Member States to approve the provisions of the Convention. Unanimous approval is essential, the resolution declared, if the United Nations is to achieve its purpose and perform its functions effectively. The Assembly also noted with

satisfaction the Secretary General's account of steps taken to bring into force the agreement between the United Nations and the United States on the Permanent Headquarters.

On December 11, the Assembly approved agreements to enable officials of three specialized agencies—ICAO, UNESCO, and FAO—to use the United Nations *laissez-passer* for official travel.

On November 3, the Assembly elected the following persons to serve a three-year term on the International Law Commission: Gilberto Amado (Brazil); Shuhsi Hsi (China); Jesus Maria Yepes (Colombia); Jaroslav Zourek (Czechoslovakia); Georges Scelle (France); Jean Spiropoulos (Greece); Sir Benegal Rau (India); Roberto Cordoba (Mexico); J. P. A. François (Netherlands); Ricardo Alfaro (Panama); A. E. F. Sandström (Sweden); Faris Bey el-Khuri (Syria); Vladimir Koretsky (U.S.S.R.); James Leslie Brierly (United Kingdom); and Manley Hudson (United States).

THE SECURITY COUNCIL

The Security Council is charged with the primary responsibility for the maintenance of international peace and security. According to the Charter, the Council may investigate any disputes which might threaten the maintenance of international peace and security and may make recommendations on appropriate procedures or actual terms of pacific settlement of such disputes. It is to determine the existence of any threat to the peace, breach of the peace, or act of aggression, and may take enforcement measures such as interruption of economic relations and severance of diplomatic relations or action by land, air or sea forces. The Council consists of 5 permanent members and 6 non-permanent members.

Each member of the Security Council has one vote. Decisions of the Security Council on procedural matters are made by an affirmative vote of 7 members. Decisions on all other matters are made by an affirmative vote of 7 members including the concurring votes of the permanent members; provided that a party to a dispute shall abstain from voting in decisions on pacific settlement of the disputes.

During 1948 the Security Council considered the following major questions:

Palestine Question. Following the General Assembly's approval, in November, 1947, of the plan to partition the Holy Land into Jewish and Arab States with an international regime for Jerusalem, the three units to be linked in economic union, tension between Arabs and Jews mounted in Palestine. The five-member Palestine Commission set up by the Assembly encountered increasing difficulties. Appearing before the Security Council on February 18, the Chairman of the Commission declared that unless an international force in effective strength could be provided, Palestine would, when the British left on May 15, become a scene of widespread strife and bloodshed.

On March 19 the United States submitted to the Security Council a proposal for a temporary trusteeship for Palestine under the Trusteeship Council, and a suspension of the efforts by the United Nations Palestine Commission to implement partition. A special session of the General Assembly was to be called to consider the Trusteeship proposal. The proposal to call a special session of the Assembly was adopted by the Council on April 1 (see above).

Shortly after the new State of Israel was proclaimed, a war which threatened to spread through-

out the Middle East engulfed that area. The Security Council intervened and ordered a truce in Palestine for a month. The truce became effective on June 11. Following the expiration of this first truce, there was a resumption of active hostilities in Palestine, which, however, was brought to a halt by a Security Council order on July 15 of a second truce of indefinite duration. The Council, in ordering its second truce, invoked, for the first time, Chapter VII of the Charter, declaring that failure by any of the governments or authorities concerned to comply with the truce would demonstrate the existence of a breach of the peace. It thus implied the use of sanctions or of military force against any violator of the truce.

In the attempt to preserve peace in Palestine, various United Nations officials lost their lives, including the Mediator Count Bernadotte, who was assassinated in Jerusalem on September 17. The General Assembly at its Paris session established in December a Conciliation Commission for Palestine (see above).

Hostilities broke out anew in southern Palestine on December 22. The Security Council on December 29 adopted a United Nations resolution ordering an immediate cease-fire in the Negev area of southern Palestine. At the same time, the Council instructed its Committee on Palestine, which it had appointed in November, to meet at Lake Success on January 7 to consider the situation in southern Palestine and report to the Council on the extent to which the governments concerned had by that date complied with the Council's resolutions.

Berlin Question. In separate, but similar notes, the Governments of France, the United Kingdom, and the United States in October asked the Security Council to consider what they described as the blockade of Berlin by the U.S.S.R. and to bring about an ending of this situation. The matter was placed on the agenda in spite of the protest of the U.S.S.R. that the Berlin Question was beyond the competence of the United Nations and that it resulted from the non-observance of certain international obligations of the Western Powers.

A draft resolution was presented to the Council by the "neutral" members (Argentina, Belgium, Canada, China, Colombia, and Syria). It called upon France, the United Kingdom, the United States, and the U.S.S.R. to put into effect simultaneously the steps required for the fulfillment of the following measures: an immediate removal by all parties of all restrictions on communications, transport, and commerce between Berlin and the Western zones of Germany, and the restrictions on transport and commerce to and from the Soviet zones of Germany, an immediate meeting of the four Military Governors to arrange for the unification of currency in Berlin on the basis of the German mark of the Soviet zone; and a reopening of the negotiations in the Council of Foreign Ministers on all outstanding problems concerning Germany as a whole. This draft resolution, however, did not receive the support of the U.S.S.R., and was therefore not adopted.

From this it appeared that the main stumbling block to a settlement of the Berlin question was the currency problem. In an effort to solve the problem, Dr. Juan Bramuglia, President of the Security Council in December, acting in behalf of the "Six Neutrals," submitted to the four governments involved a proposal to solve the currency problem. The four governments on December 1, announced their acceptance of the proposal, that called for the creation of a committee of six financial experts—composed of representatives of the

"Six Neutrals"—which would meet in Paris during December to consider ways and means of establishing a single currency for Berlin. The committee was authorized to consult financial experts of the four occupation authorities of Germany, and was to submit its recommendations to the Security Council within 30 days.

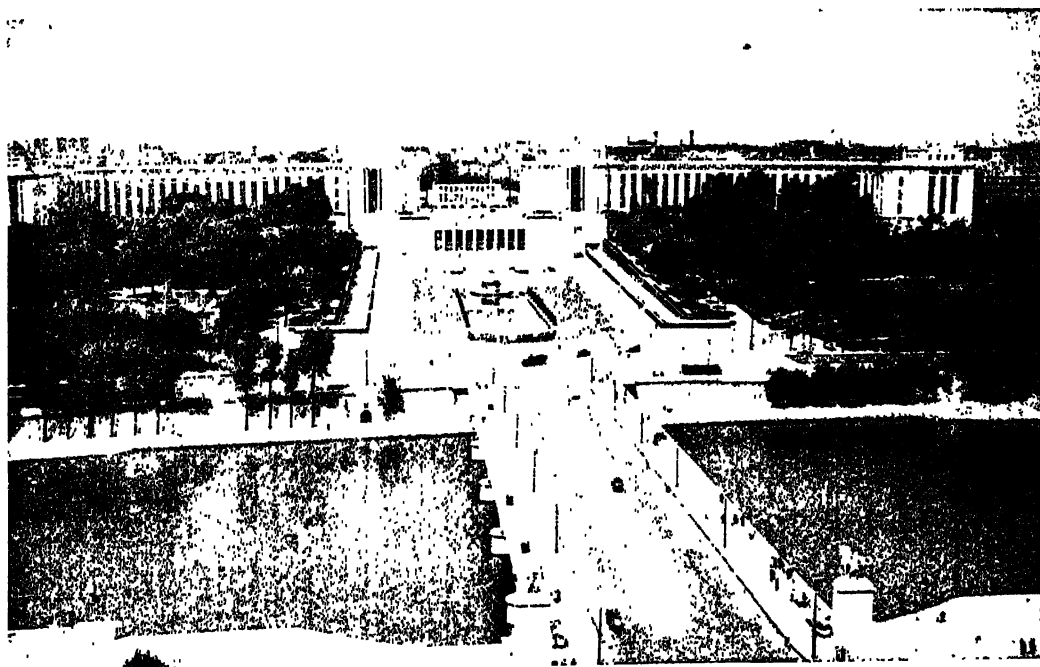
Indonesian Question. As a result of negotiations carried on by the Security Council's Committee of Good Offices in Indonesia, a truce agreement between the Netherlands and the Republic of Indonesia was signed on January 17 aboard the U.S.S. *Renville*. Immediate and simultaneous cease-fire and stand-fast orders were issued to the forces of the two parties. At the same time both parties agreed to 12 political principles and, two days later, to 6 additional principles. These 18 principles were to form the basis for an attempt to settle the dispute in the islands of Java, Madura, and Sumatra. Agreement by both parties concerned to settle their differences peacefully, however, was not reached, and hostilities broke out anew toward the end of the year.

The resumption of hostilities in the latter part of December led to an emergency meeting of the Security Council in Paris. After several motions for stronger Council measures, including a resolution calling upon the parties concerned to withdraw their armed forces behind the demilitarized zones established by the truce agreement, were defeated, the Security Council on December 24 voted to call upon the Netherlands and the Indonesian Republic to cease hostilities immediately and asked for the immediate release of the president of the republic and other political leaders arrested by the Dutch.

At another meeting of the Council on December 29, the Dutch spokesman declared that the Netherlands Government, although it challenged the Council's competence in what it regarded as a domestic affair, promised to order a cease-fire in Java as of midnight, December 31, and in Sumatra a few days thereafter. He also declared that the detention of Republican leaders was a logical consequence of the military operations. He stated that since hostilities would shortly come to an end, the Netherlands Government would thereupon lift restrictions on the movements of the Republican leaders on the understanding that the persons concerned would refrain from activities endangering public security. He further declared that in order to rebuild cooperation in all of Indonesia, the Dutch Prime Minister would leave for Indonesia in a few days.

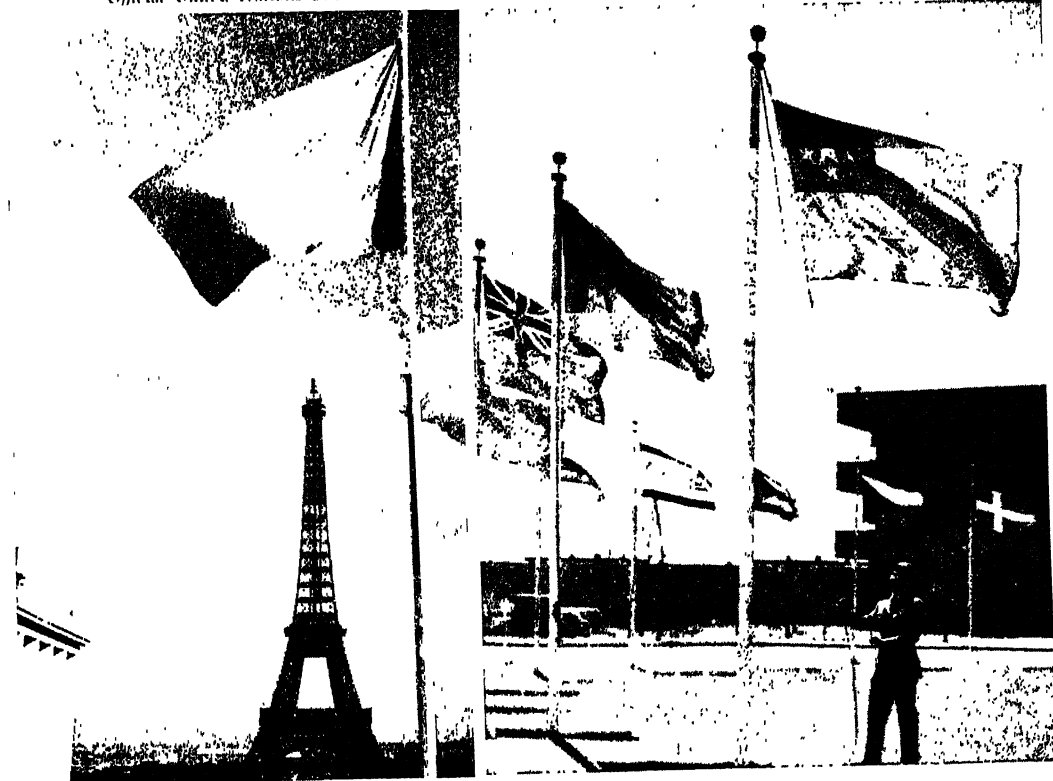
India-Pakistan Question. A dispute between India and Pakistan, involving in its most serious aspect the State of Jammu and Kashmir, was brought to the attention of the Security Council in January, 1948, by India. India charged that hostile tribes from outside the State were receiving aid from Pakistan in their invasion of Jammu and Kashmir, creating a situation fraught with the utmost danger. The main point at issue, it developed, was whether the State, whose princely ruler had opted for accession to India, should accede to that State or to Pakistan.

The Security Council, after first calling upon India and Pakistan to take all measures within their power to improve the situation and to refrain from making statements or from permitting acts which might aggravate the situation, on January 20 established a Commission for India and Pakistan composed of representatives of Argentina, Belgium, Colombia, Czechoslovakia, and the United States to bring about a cessation of hostilities in the area and to prepare the way for a plebiscite to determine



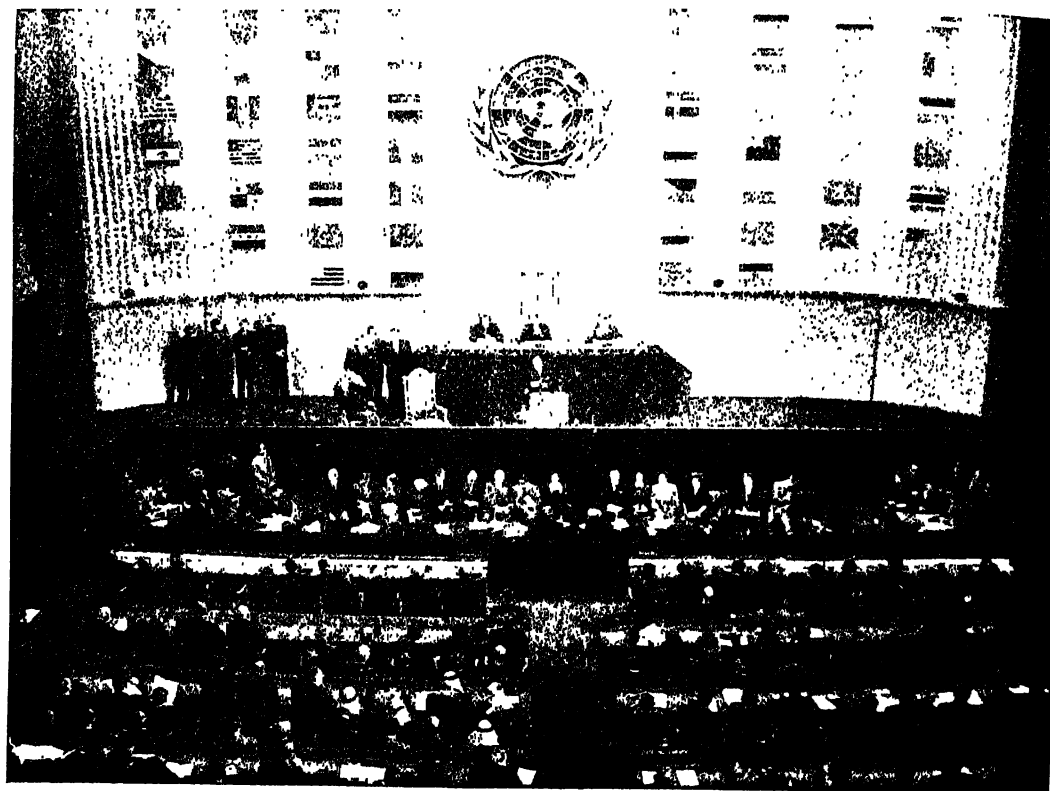
PALAIS DE CHAILLOT in Paris, the meeting place of the United Nations, is shown in a high view from the Eiffel Tower. Representatives of 58 nations met here in 1948 for the Third Session of the United Nations General Assembly.

Official United Nations Photos



UN FLAG UNFURLED IN PARIS. Two symbols face each other as the official flag of the United Nations is unfurled from the Palais de Chaillot, opposite the Eiffel Tower in Paris, France, during September 1948.

BURMA JOINS THE UNITED NATIONS. The flag of Burma is raised for the first time in the circle outside the United Nations headquarters. Following its admission by a unanimous vote, Burma became the 58th country to enter the United Nations.



▲ UNITED NATIONS GENERAL ASSEMBLY, meeting in France for its Third Regular Session, is welcomed by M. Auriol, President of the French Republic. The delegates met in the Palais de Chaillot, in Paris, on September 21, 1948.

▼ COUNT FOLKE BERNADOTTE reports to the United Nations Security Council. Immediately behind the Mediator (speaking) is seated Dr. Ralph J. Bunche, principal secretary to the United Nations Palestine Commission.





Official United Nations Photos

KASHMIR: VOTES INSTEAD OF GUNS. Pakistan simultaneously receives UN cease-fire proposals from another UN group which proceeded to the Muslim capital of Karachi and submitted them to Sir Mohammed Zafrullah Khan, Pakistan's Foreign Minister. Pakistani representatives in conference with members of UN Commission on India and Pakistan are, (shown left to right on far side of table): Mohammed Ali, Sir Zafrullah Khan, and H. Ayub. August 1948.



GENOCIDE CONVENTION. Prof. Raphael Lemkin (left) and Ricardo Alfaro of Panama in conversation before the plenary meeting of the UN General Assembly at which the Genocide Convention was approved. Palais de Chaillot, Paris, France.

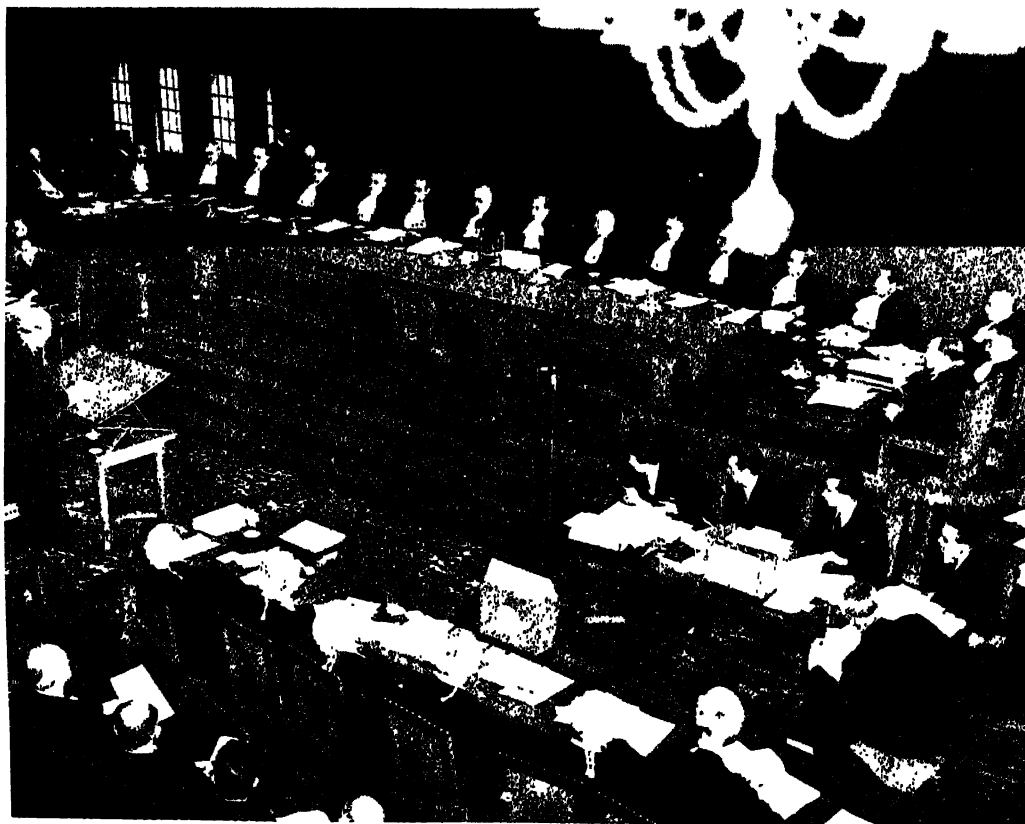


BURMA APPLIES for membership in the United Nations. Ambassador U So Nyun (left) talks with UN Secretary General, Trygve Lie, after submitting Burma's application for membership in the family of United Nations.



WORLD HEALTH ORGANIZATION on June 21, 1948, held a plenary meeting of first World Health Assembly, Geneva, Switzerland, for the purpose of creating the World Health Organization as a permanent Specialized Agency of the United Nations. At rostrum (left to right): Dr. Brock Chisholm, Executive Director of Interim Commission; Prof. Andrija Stampar, of Yugoslavia, Assembly President; and Henri Laugier, Assistant Secretary General of the U

Official United Nations Photo



INTERNATIONAL COURT HEARS FIRST CASE—General view of the International Court of Justice, as the British representative, Sir Hartley Shawcross, presents the case of Great Britain dealing with the Corfu Channel dispute.

whether the people of Jammu and Kashmir wished to join India or Pakistan.

The Commission on August 13 resolved to submit simultaneously to India and Pakistan proposals for a cease-fire order and a truce agreement. As 1949 dawned, India and Pakistan reported agreement on the mechanics of a plebiscite to be held in Jammu and Kashmir under United Nations auspices and ordered an immediate cease-fire. War on the subcontinent was thus averted.

Czechoslovak Question. The representative of Chile on March 12 asked the Security Council to examine the charges leveled against the Government of the U.S.S.R. two days previously by the then permanent representative of Czechoslovakia, Mr. Jan Papanek. Mr. Papanek, subsequently replaced as permanent representative of Czechoslovakia, had charged the U.S.S.R. with gross interference in the internal affairs of his country, and had asked the Council to consider the matter.

The Chilean request was admitted to the Council's agenda on March 17, by a vote of 9 to 2, the representative of the U.S.S.R. calling the charges a gross libel on his government and a pure product of the imagination, and consequently voting against admitting the matter to the agenda. The charges were repeated and elaborated by Mr. Papanek, who had been invited to the Council table over the objections of the Soviet and Ukrainian representatives. They were denied once more by the U.S.S.R. representative. The Czechoslovak Government later declined to accept an invitation, adopted by the Council, to attend Council meetings in connection with the matter.

A draft resolution, calling for the establishment of a Council Committee to gather evidence and receive testimony, was vetoed by the representative of the U.S.S.R. when it was put to the vote on May 24. The representatives of France, the United Kingdom, and the United States, characterizing the Soviet vote as an abuse of the veto privilege, announced to the Council that they would be prepared to obtain statements from Czechoslovak refugees who had relevant information and that they would make such statements available to the Council at a later time. No further action was taken, but the matter remains on the Council's agenda.

Hyderabad Question. Among the unfinished items on the Security Council's agenda is the question of Hyderabad. In placing the matter on its agenda in September, at the request of Hyderabad, the Council expressly declared that in so doing it was not deciding the question of its own competence to deal with the issue. Indian troops crossed the frontiers of the princely State of Hyderabad to put an end, according to the Indian Government's announcement, to a reign of terrorism and to reestablish law and order.

The Nizam of Hyderabad subsequently surrendered, dismissed the Cabinet which had filed the complaint against India with the Security Council, and asked that the case be withdrawn. This request for withdrawal of the case was supported by India, which had, from the beginning, denied the competence of the Council to deal with the matter, on the grounds that it was a domestic Indian issue. The Council, however, decided to retain the matter on its agenda for the time being.

Appointment of a Governor of the Free Territory of Trieste. The Security Council on Jan. 10, 1947, approved the annexes to the Peace Treaty with Italy, relating to the creation and government of the Free Territory of Trieste, including an arrangement for a free port. The Council thus accepted the responsibility of insuring the independence and

integrity of the Free Territory of Trieste, including the responsibility of appointing the Governor. The Council members, however, were unable in 1948 as in 1947, to agree on a candidate for the governorship, so that the post remained vacant.

The Question of the Free Territory of Trieste. The representative of Yugoslavia in August charged that the Anglo-American agreements with Italy regarding the Free Territory of Trieste were violations of the Italian Peace Treaty since they aimed at incorporation of the Anglo-American Zone of the Territory into the Republic of Italy. He submitted a draft resolution to the Council, supported by the representative of the Ukrainian S.S.R., calling for those agreements to be declared null and void.

The representative of the Ukrainian S.S.R. submitted a draft resolution to the Council under which the Council would have declared it urgently necessary to solve the problem of the appointment of a governor for the Free Territory. The representatives of the United States and the United Kingdom called the Yugoslav charges flimsy and unwarranted, and the Council on August 19 rejected both the Yugoslav and the Ukrainian resolutions.

Admission of New Members. The Union of Burma on Feb. 27, 1948, applied for membership in the United Nations. The Security Council on April 10 and the General Assembly on Apr. 19, 1948, decided in favor of Burma's admission, which became effective on the latter date.

Also on April 10, the Security Council reconsidered the applications of all States it had previously failed to recommend for membership (Albania, Austria, Bulgaria, Finland, Hungary, Ireland, Italy, Mongolia, Portugal, Roumania, and Transjordan). Only Italy's application was voted on. It received 9 affirmative votes, but because of the negative vote of a permanent member (U.S.S.R.), it was not approved. The consideration of the remaining applications was postponed.

The Security Council on August 18 rejected, because of the adverse vote of a permanent member, a Chinese proposal to recommend the admission of Ceylon to the United Nations. The vote was 9 in favor to 2 against (Ukrainian S.S.R. and U.S.S.R.).

By a letter dated November 29 from the Minister for Foreign Affairs, the Provisional Government of Israel applied for membership in the United Nations. Israel's application was rejected by the Security Council on December 17, when only 5 votes were produced in favor, with one country (Syria) voting against and 5 abstentions. According to the Charter, adoption of such a resolution needs 7 affirmative votes, including the concurring votes of the permanent members.

Acting on the resolution of the General Assembly regarding Ceylon's application for membership to the United Nations (see *General Assembly* above), the Security Council in December again considered the matter. Ceylon's application was again rejected by the Council on December 15, however, because of the negative votes of the U.S.S.R. and the Ukrainian S.S.R. The vote was 9 in favor and 2 against.

Military Staff Committee. Under Article 43 of the United Nations Charter all Members of the United Nations undertake to make available to the Security Council, on its call and in accordance with a special agreement or agreements, armed forces, assistance, and facilities necessary for the purpose of maintaining international peace and security. Article 47 of the Charter provides that a Military Staff Committee, composed of the Chiefs of Staff of the

permanent members of the Security Council or their representatives, be established to assist the Security Council on all questions related to the Security Council's military requirements, and the employment, command, and strategic direction of armed forces placed at the disposal of the Security Council.

During the year 1948 the Military Staff Committee, in accordance with directives issued by the Security Council, continued its examination of the provisions of Article 43 of the United Nations Charter from the military point of view. The question of the over-all strength and composition of the armed forces to be made available to the Security Council was also under consideration by the Military Staff Committee.

Atomic Energy Commission. On Jan. 24, 1946, the General Assembly unanimously resolved to establish a commission to deal with the problems raised by the discovery of atomic energy. This body is composed of one representative from each of the States represented on the Security Council and Canada, when Canada is not a member of the Security Council.

On May 17, 1948, the Atomic Energy Commission adopted a joint statement by France, the United Kingdom, and the United States indicating that it had reached an impasse in its work, and therefore could not prepare a draft treaty on the control of atomic energy. This statement said that the difficulties which confronted the Commission were first evidenced when the plan for the control of atomic energy, under consideration by most of the members, was rejected by the U.S.S.R., either as a whole or in its separate parts, on the ground that such a plan constituted an unwarranted infringement on national sovereignty.

For its part, the U.S.S.R. insisted that a convention outlawing atomic weapons and providing for the destruction of existing weapons must precede any control agreement. The majority of the Commission considered that such a convention, without safeguards, would offer no protection against non-compliance.

Because of the failure to achieve agreement on the international control of atomic energy, the joint statement went on to say, the Commission concluded that no useful purpose could be served by carrying on negotiations at the Commission level. It recommended that such negotiations should be suspended until such time as the permanent members of the Commission (Canada, China, France, the U.S.S.R., the United Kingdom, and the United States) found, through prior consultation, that there existed a basis for agreement on international control.

In view of the nature of the impasse in the Atomic Energy Commission, the representative of the United States submitted a draft resolution to the Security Council on June 11, which among other things, called on the Security Council to accept the first three reports of the Atomic Energy Commission and to approve certain of its findings and recommendations.

This draft resolution was put to the vote on June 22. The result was 9 in favor and 2 against, but since one of the two opposing members (U.S.S.R.) was a permanent member of the Security Council, the resolution was not adopted. The Council then adopted a Canadian draft resolution which directed the Secretary General to transmit to the General Assembly and to the Member nations of the United Nations, the first three reports of the Commission, together with the record of the deliberations of the Security Council on this subject, as a matter of

special concern (see *General Assembly* above).

Commission for Conventional Armaments. On Dec. 14, 1946, the General Assembly adopted a resolution recommending that "the Security Council give prompt consideration to formulating the practical measures, according to their priority, which are essential to provide for the general regulation and reduction of armaments and armed forces and to assure that such regulation and reduction of armaments and armed forces will be generally observed by all participants and not unilaterally by only some of the participants." In order to work out the practical measures for giving effect to this resolution and in accordance with Article 26 of the Charter, which places upon it the responsibility for the establishment of a system for the regulation of armaments, the Security Council on Feb. 13, 1947, established a Commission for Conventional Armaments. The Commission was instructed to submit proposals to the Council within three months.

The Commission for Conventional Armaments on Aug. 12, 1948, approved two resolutions previously adopted by its Working Committee. The first resolution stated that it considered all armaments and armed forces, except atomic weapons and weapons of mass destruction, as falling within its jurisdiction. Weapons of mass destruction were defined in the resolution to include atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons, and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above. The Commission proposed to proceed with its work on the basis of the above definition.

The second resolution embodied a number of general principles which should govern the regulation and reduction of armaments and armed forces. The resolution stated that a system for such a regulation and reduction should provide for the adherence of all States, and that initially it must include at least all States having substantial military resources. It went on to state that such a system could only be put into effect in an atmosphere of international confidence and security. It listed the following examples of conditions essential to international confidence and security: the establishment of an adequate system of agreements under Article 43 of the Charter; the establishment of international control of atomic energy; and the conclusion of the peace settlements with Germany and Japan.

The second resolution further stated that to conform with Article 26 of the Charter, armaments and armed forces, under an effective system for their regulation and reduction, must be limited to those consistent with and indispensable to the maintenance of international peace and security, and must not exceed those necessary for the implementation of Members' obligations and the protection of their rights under the Charter. To ensure observance, such a system, it was stated, must include adequate safeguards, including an agreed system of international supervision. Finally, the resolution stated that provision should be made for effective enforcement in the event of violation.

The Commission, on Aug. 17, 1948, completed a paragraph-by-paragraph study of its second report to the Security Council, in the course of which some amendments were made. No vote was taken on the report but the Commission was agreed that if no delegation requested a final reading before September 15, the report would be considered as approved. On September 14, however, the U.S.S.R. informed the Commission that it could not agree with the draft of the Commission's report. (For

further developments, see *General Assembly*, above.)

ECONOMIC AND SOCIAL COUNCIL

The Economic and Social Council, operating under the authority of the General Assembly, initiates studies and makes recommendations with respect to international economic and social matters; promotes respect for, and observance of, human rights and fundamental freedoms; prepares draft conventions and calls international conferences with respect to matters falling within its competence. It enters into agreements with specialized agencies and coordinates the policies and activities of such agencies. The Council consists of 18 members elected by the General Assembly for three-year terms. During the year the Council held two sessions—its sixth and seventh. Some of the major economic and social problems tackled by the Economic and Social Council and its subsidiary bodies are summarized below.

One of the essential activities of the United Nations in the economic field is the preparation of surveys and reports on the basis of which action can be taken or recommended. Among the economic reports prepared by the Secretariat during 1948 were a report on the salient features of the world economic situation from 1945 to 1947, a survey of the economic situation and prospects of Europe, and an economic survey of Asia and the Far East in 1947.

The work of the regional economic commissions has been outstanding. The Economic Commission for Europe, established in March, 1947, has now built up its organizational structure so as to deal with many problems of shortages which hamper the recovery of European trade. Although much of its work has been concentrated on the collection and exchange of information, its work has in some fields resulted in increased production. As an example, the Commission, late in the year, reported that one of the major bottlenecks in steel production—the shortage of coke—had been virtually eliminated.

Increases of production have also been noted in the case of fertilizers and silica bricks. The Commission through its various subsidiary bodies has also considered housing needs and programs, requirements for building materials and measures to economize the use of scarce materials; has made recommendations concerning the allocation of coal and has dealt with questions concerning mining equipment and pitwood. It has carried out studies on the coordinated development of European power resources and facilitated the negotiation of international agreements for the supply and exchange of electrical energy.

With the FAO, it is considering the problems of the European timber situation and, with the ILO, problems concerning manpower. It has also taken a number of measures to restore European inland transport facilities and to ensure their most effective use—for example, through securing a large measure of agreement on regulations governing the exchange of railway-wagons in international traffic and through securing the lifting of some of the restrictions on the freedom of the road.

The Economic Commission for Asia, established at the same time as the Economic Commission for Europe, has considered, *inter alia*, the problem of flood control, which is vital to the economy of the area in which it operates. A Bureau of Flood Control is being established which is to contain flood control experts, to provide technical advice to the Commission.

A working party of the Commission is preparing, in collaboration with the governments concerned, a survey of the economic and industrial development of the region, studying, in the first place: fuel and power, transport and transport equipment in relation to industry, fertilizers and agricultural requisites, basic materials including ores and metals, textiles, and heavy engineering industries. The Commission appealed to advanced industrial nations for capital goods and basic materials needed for rehabilitation and recovery and asked the countries of its region to specify their short-term needs and their long-term plans for industrial development.

During its sixth session, the Economic and Social Council on February 25 established an Economic Commission for Latin America. The principal tasks of this Commission are to assist concerted action for dealing with economic problems arising out of the war, for raising the level of economic activities of the countries of Latin America, and for maintaining and strengthening the economic relations of Latin American countries, both among themselves and with other countries of the world. The Commission held its first session in Santiago de Chile in June. Among other things, it requested its Executive Secretary to present to its next session an economic survey of Latin America and to make a preliminary study of the needs of Latin American countries for technical and administrative personnel, means and facilities, and their present availability.

As part of its statistical activities, the Statistical Commission, in order to meet the most pressing needs and especially those which national governments will face in their plans for the censuses of agriculture and population in 1950 census programs, is studying means whereby technical advice and assistance may be rendered to national governments with a view to developing more adequate statistics and improving the comparability of data available to international organizations.

Three types of statistical publications arise out of the work of the Statistical Office of the United Nations as part of its program in the collection and publication of statistics and the development of statistical standards. The first consists of economic and social statistics of current interest of international organizations and Members of the United Nations published in the *Monthly Bulletin of Statistics*. A second type of statistics covering a much wider field of statistics is collected by the United Nations and published in the *Statistical Yearbook* and the *Demographic Yearbook*. The third type arises out of the specific projects of research or special studies. Such studies include a report on *National Income Statistics of Various Countries 1938-1947*.

Following a recommendation of the Transport and Communications Commission, a United Nations Maritime Conference met in Geneva from February 19 to March 6. The Conference prepared and opened for signature and acceptance a Convention, providing for the establishment of the Intergovernmental Maritime Consultative Organization.

Another conference held in 1948 was the United Nations Conference on Freedom of Information which met at Geneva from March 23 to April 21. The Conference prepared the following three Draft Conventions: (1) Draft Convention on the Gathering and International Transmission of News; (2) Draft Convention concerning the Institution of an International Right of Correction; and (3) Draft Convention on Freedom of Information. The Con-

ference also adopted a number of resolutions grouped under the following headings: (1) general principles; (2) measures to facilitate the gathering and international transmission of information; (3) measures concerning the free publication and reception of information; (4) continuing machinery to promote the free flood of information; (5) miscellaneous, and (6) possible modes of action by means of which recommendations of the Economic and Social Council can best be put into effect.

Still another conference held was the United Nations Conference on Trade and Employment which met at Havana, Cuba, from Nov. 21, 1947, to Mar. 24, 1948. The Conference drew up the Havana Charter for an International Trade Organization.

The International Children's Emergency Fund, under the jurisdiction of the Economic and Social Council, is now bringing a supplementary meal to over 4 million children and nursing or pregnant mothers in various European countries. It has embarked, in collaboration with the WHO and the Danish Red Cross and its Scandinavian associates, upon an antituberculosis vaccination program which will cover more than 50 million children in Europe alone. The Fund is also starting an antivenereal disease project and a regional malaria-control project for children and mothers. The Fund's feeding program in Asia is well under way, and it has sent supplies for Arab and Jewish refugee children in the Near East.

A United Nations Appeal for Children was launched in 1948. This Appeal, which is a worldwide appeal for funds for children, adolescents, and nursing and expectant mothers, by the beginning of December passed the \$30 million mark in worldwide contributions. Fifty countries and 28 Non-Self-Governing Territories participated in the Appeal during 1948. Through its Advisory Social Welfare Program the United Nations continued to provide consultants, fellowships, prosthetic appliances, literature, and films; it also held special welfare seminars at the request of Member Governments.

At its second session, held at the headquarters of the United Nations in January, 1948, the Commission on the Status of Women noted with satisfaction that, since its first session, Argentina and Venezuela had granted women full political rights, and it expressed the hope that plans for similar action by Costa Rica, Colombia, Peru, and Chile might be completed as soon as possible.

Other actions initiated by the Economic and Social Council or its subsidiary bodies were successfully brought to an end by the General Assembly. Among these may be mentioned the Universal Declaration of Human Rights, the Convention on Genocide, and the protocol extending existing conventions for the control of traffic in narcotic drugs to include new synthetic products.

TRUSTEESHIP AND NON-SELF-GOVERNING TERRITORIES.

Under Chapters XI, XII, and XIII of the Charter, the work of the United Nations in the field of Non-Self-Governing Territories falls into two categories: (1) the duties and functions of the Trusteeship Council with respect to those territories placed under the Trusteeship System; and (2) the responsibility of the Secretary General in connection with information on all Non-Self-Governing Territories other than Trust Territories.

Trusteeship Council. In pursuance of a resolution adopted by the General Assembly on Dec. 14, 1946, the Trusteeship Council was constituted as a

principal organ of the United Nations. The last such organ to come into existence, it convened for its first session at Lake Success on Mar. 26, 1947.

The administration of Trust Territories is subject to the supervision of the United Nations. Administering Authorities are required to render, from year to year, an account of their stewardship to the Trusteeship Council, and the latter, after examining these accounts, may make suggestions for improvements. In addition, the Council may entertain petitions from private persons or organizations regarding conditions in the Trust Territories and may dispatch regular or special visiting missions to these regions for studying conditions at first hand.

As at present constituted, the Council consists of 12 members. Australia, Belgium, France, New Zealand, the United Kingdom, and the United States are members by virtue of their being Administering Authorities. Two countries, namely China and the U.S.S.R., hold membership by virtue of being permanent members of the Security Council but not administering Trust Territories. The other 4 members—Costa Rica, Iraq, the Philippines, and Mexico—were elected for three-year terms by the General Assembly in accordance with Article 86, paragraph 1(c) of the Charter.

During 1948 the Trusteeship Council examined in detail reports on conditions in the Trust Territories of New Guinea, administered by Australia; Ruanda-Urundi, administered by Belgium; and Tanganyika, administered by the United Kingdom. Measures for the improvement of various aspects of life in those territories, whose total population is close to 9 million people, were proposed by the Trusteeship Council.

Among the many petitions considered by the Council was one from the Ewe people, a tribe whose members now are divided by the boundary lines of Togoland under French administration, Togoland under British administration, and the British Gold Coast. The Ewe, who were represented before the Council by one of their members to support their written petition, asked that the division of their tribe be brought to an end and that they be permitted to live under a single administration. The Council took note of a program worked out jointly by France and the United Kingdom to improve the position of the Ewe. At the same time the Council decided to take up the question again after hearing from a regular visiting mission of its own which would study the Togoland region in 1949.

Two special questions had been referred to the Council by the General Assembly: the problem of South-West Africa and that of Jerusalem. South-West Africa is a former German colony whose administration as a Mandated Territory had been entrusted to the Union of South Africa by the League of Nations. The Assembly had repeatedly requested the Union Government to place South-West Africa under the International Trusteeship System. The Union Government, however, declared itself unable to comply with this request. The Assembly had further decided that the report submitted on South-West Africa by the Union Government should be examined by the Trusteeship Council. This duty the Council discharged in 1948 (see also *General Assembly* above).

Under the original partition resolution on Palestine, the Assembly in November, 1947, had, among other things, asked the Trusteeship Council to prepare a Statute for the City of Jerusalem which was to have been placed under an international regime. When the Assembly held its second special session, the Trusteeship Council notified it that it had pre-

pared such a Statute, and asked the Assembly for further instructions. As no such instructions were given, and because of the changed conditions in the area, the Trusteeship Council did not formally adopt the Statute, nor did it take any further action on it.

The Council sent out its first Visiting Mission to inspect conditions in Ruanda-Urundi, Belgian Trust Territory in East Africa; and in Tanganyika, British Trust Territory. Reports of this Mission will be considered by the Council in 1949. The dispatch of a previous Visiting Mission to Western Samoa which had been sent in 1947 in response to a petition from the indigenous population led, with the cooperation of the Administering Authority of New Zealand, to a substantially increased measure of self-government for the inhabitants of that area.

Non-Self-Governing Territories. The role of the United Nations with respect to non-self-governing territories not placed under Trusteeship is much more limited. Those responsible for the administration of such territories have pledged themselves in the Charter to recognize the principle that the interests of the inhabitants of such areas are paramount and to accept, as a sacred trust, the obligations to promote to the largest possible extent the welfare of such peoples. Furthermore, the Metropolitan Powers are bound by the Charter to submit reports on all but political aspects of developments in such non-self-governing territories. While no machinery is provided in the Charter for the purpose of examining these reports, the Assembly decided in 1946 to establish a special committee for that purpose. The Special Committee met in 1947 and again in 1948, examining in the course of the latter year reports covering more than 60 non-self-governing territories. The Committee formulated a number of proposals and recommended the re-establishment of the Special Committee in 1949. These recommendations were endorsed by the Assembly (see above).

THE INTERNATIONAL COURT OF JUSTICE

The International Court of Justice is the principal judicial organ of the United Nations. It functions in accordance with its Statute, which is based upon the Statute of the Permanent Court of International Justice, and forms an integral part of the Charter. All Members of the United Nations are *ipso facto* parties to the Statute of the International Court of Justice.

The International Court of Justice in 1948 continued its study of the Corfu Channel incident. The Security Council on Apr. 9, 1947, had recommended that the dispute, which concerned an incident in which two British warships were damaged in the Corfu Channel on Oct. 22, 1946, be referred to the Court. On Mar. 25, 1948, the Court delivered a judgment rejecting the Albanian objection (that the United Kingdom was not entitled to refer this dispute to the Court by unilateral application) on the grounds, *inter alia*, that the Albanian Government's letter of July 2, 1947, in the opinion of the Court, constituted a voluntary and indisputable acceptance of the Court's jurisdiction.

The Court held that there was nothing to prevent the acceptance of jurisdiction, as in the present case, from being effected by two separate and successive acts, instead of jointly and beforehand by a special agreement. The Court also held that the reservations stated in the Albanian Government's letter were intended only to maintain a principle and to prevent the establishment of a precedent for the future. The Court maintained

that the reservation of Albania therefore did not enable Albania to raise a preliminary objection based on an irregularity of procedure, or to dispute thereafter the Court's jurisdiction on the merits.

Immediately after the delivery of judgment, the agents for the Albanian and United Kingdom Governments announced to the Court the conclusion between their respective governments of a Special Agreement, drawn up as a result of the resolution of the Security Council of Apr. 9, 1947, for the purpose of submitting to the Court for decision the following questions:

"1. Is Albania responsible under international law for the explosions which occurred on October 22, 1946, in Albanian waters and for the damage and loss of human life which resulted from them, and is there any duty to pay compensation?"

"2. Has the United Kingdom under international law violated the sovereignty of the Albanian People's Republic by reason of the acts of the Royal Navy in Albanian waters on October 22 and on November 12 and 13, 1946, and is there any duty to give satisfaction?"

Proceedings on the case are continuing.

The Court on May 28, 1948, delivered its first advisory opinion on the question of the admission of Members to the United Nations. By a vote of 9 to 6 the Court declared that it was of the opinion that a Member is not juridically entitled to make its consent to the admission of a state dependent on conditions not expressly provided in Article 4, paragraph 1 of the Charter, and that, in particular, a Member may not make its affirmative vote for the admission of any State subject to the admission of other States.

On July 28, Switzerland became the first non-Member of the United Nations to become a party to the Statute of the International Court of Justice.

UNITED STATES. The area of the United States proper, or the 48 States and the District of Columbia, is 3,022,387 square miles, excluding inland waters having an area of 45,259 square miles. The non-contiguous lands subject to the authority of the United States (Alaska, American Samoa, Guam, Hawaii, Panama Canal Zone, Puerto Rico, Trust Territory of the Pacific Islands, and Virgin Islands) comprise 696,721 square miles.

The population of continental United States (Sixteenth Census) April, 1940, was 131,669,275. On July 1, 1947, the population was estimated by the Bureau of the Census to be 143,382,000, and on Jan. 1, 1949, it was estimated to be 147,946,000.

On Nov. 2, 1948, the date of the national election, the population of the United States 21 years old and over, including persons in the armed forces overseas, was estimated at 94,641,000. In all States except Georgia the population 21 years old and over is the population of voting age. Women of voting age were estimated to outnumber men by about 1,670,000. The increase in the population of voting age, including persons in the armed forces overseas, between 1940 and 1948 is estimated at about 10,644,000, or about 13 percent. It represents a male increase of about 4,481,000, or nearly 11 percent, and a female increase of about 6,163,000, or almost 15 percent.

In addition to the above divisions listed in the table the United States also possesses, or claims possession of the following Pacific Islands: Baker, Howland, and Jarvis Islands, fringing the equator in mid-Pacific about 1,000 miles S.S.W. from Honolulu; Johnston Island (q.v.), Midway Islands (q.v.), Palmyra Island (q.v.), and Wake Island

(q.v.). Canton Island (q.v.) and Enderbury Island are under joint Anglo-American administration. The Security Council of the United Nations on Apr. 2, 1947, adopted the Trusteeship Agreement for the former Japanese Mandated Islands (approved by the Congress of the United States, July 18, 1947) by which the United States of America was designated as the administering authority of the Trust Territory of the Pacific Islands (land area: 715 sq. mi.; population, July 1, 1947: 50,537; seat of government: Guam). (See PACIFIC ISLANDS.)

AREA AND POPULATION OF UNITED STATES ITS TERRITORIES AND INSULAR POSSESSIONS

Division (Capital)	Sq. miles	Pop. (1940)
United States (Washington).....	3,022,387	131,669,275
Alaska * (Juneau).....	588,400	72,524
Hawaii * (Honolulu).....	8,419	423,330
Puerto Rico (San Juan).....	3,435	1,869,255
Guam (Agaña).....	206	22,290
Samoa, American (Pago Pago).....	76	12,908
Canal Zone * (Balboa Heights).....	553	51,887
Virgin Is. (Charlotte Amalie).....	133	24,889
Total.....	3,622,795	134,265,231

* Territory. * Census taken Oct. 1, 1939. * Panama Canal Zone leased from the Republic of Panama in perpetuity. p Office of the Governor.

The population 21 years old and over is generally regarded as the maximum population eligible to vote. This maximum has never been attained because it includes a large number of persons who, though old enough to vote, may not do so because they have not satisfied the requirements of citizenship, residence, registration, or payment of poll taxes. Although the alien population 21 years old and over has declined considerably from the 3,335,932 enumerated in 1940, there were still in the neighborhood of 2 million aliens of voting age in the United States on Nov. 2, 1948. Among the persons of voting age there are persons not qualified to vote because of confinement to penitentiaries, mental hospitals, and the like, and still others who reside elsewhere than in the State in which they have voting privileges. This group includes persons in the armed forces away from their place of voting residence, either in this country or abroad. Furthermore, there is an unascertainable number of persons in the District of Columbia who lack voting residence in any State.

See VITAL STATISTICS; POPULATION. For aliens, see IMMIGRATION. For populations of individual States, see the separate State articles, as: ALABAMA; ARIZONA; etc.

Agriculture. See AGRICULTURAL COOPERATION; AGRICULTURE; AGRICULTURE, U.S. DEPARTMENT OF. Chief crops, as CORN; COTTON; HAY; OATS; POTATOES; TOBACCO; WHEAT; etc.

Commerce. See BUSINESS REVIEW; CUSTOMS, BUREAU OF; TRADE, FOREIGN.

Communications. See COMMUNICATIONS, ELECTRICAL; FEDERAL COMMUNICATIONS COMMISSION; RADIO BROADCASTING; TELEVISION.

Defense. See AVIATION, MILITARY; MILITARY PROGRESS; NAVAL PROGRESS; COAST GUARD, U.S.

Education. See EDUCATION; SCHOOLS; UNIVERSITIES AND COLLEGES.

Finance. See PUBLIC FINANCE; TAXATION.

Judiciary. See LAW; SUPREME COURT.

Legislature. See CONGRESS, UNITED STATES.

Manufacturing. See BUSINESS REVIEW.

Mineral Production. See BUSINESS REVIEW; MINERALS AND METALS; MINES, BUREAU OF; articles on leading minerals.

States and Territories. See ALASKA; ALABAMA; etc.

Transportation. See AVIATION, CIVIL; MARITIME

COMMISSION; MOTOR VEHICLES; RAILWAYS; ROADS AND STREETS; WATERWAYS.

Events, 1948. The election overshadowed everything else and was a part of everything else in 1948. Otherwise, in its domestic aspects, 1948 differed only incidentally from other prosperous peacetime years. The election set the year apart, not only in its impact on the many months from January to Election Day but in its significance for the full year in both national and international affairs. In addition the election symbolized a facet of this country's way of life so cherished by Americans—the victory of the “little fellow,” and through him all the little people, and the triumph of the underdog.

No one, months after the election, was able to assert with certainty that the decisive votes had been cast for Harry S. Truman or against the Republican candidate, Governor Thomas E. Dewey of New York. In terms of issues, however, it was clear that the voters rejected what the Republicans offered and endorsed the stands on international matters and domestic affairs espoused by President Truman. The people manifestly favored the foreign policy followed by the Government. They also made it clear that it was not Franklin D. Roosevelt alone, as a vote-getting magnet, who drew the populace, but that the general philosophy of the New Deal, instead of having been weakened, was still a vital force on the American political scene. Contrary to the embarrassed poll-takers, who suffered a devastating blow by the wide inaccuracies of their predictions, the almost unparalleled upset of the election definitely marked a return to the political ideas that had swayed the nation for a decade and a half.

The cross-currents of the election process, in a free nation, pervaded all aspects of life in the United States as well as life beyond the United States. In 1948 this country reached a milestone toward which it had been moving for years, slowly and hesitantly. The nation gave evidence, through action and resolve, that its commitment to a world role was complete. The United States shouldered the responsibilities of a divided world, of the schism between the West and the East that was reflected in the continuing “cold war.” On the continents of Europe and Asia and in the forum of the United Nations, American representatives spoke out, and their words were backed by deeds and dollars. The Economic Cooperation Act came into being and the economic aid of the Marshall Plan absorbed billions of United States dollars and proved itself a potent weapon in democracy's counterattack against the push of totalitarianism.

In foreign affairs an atmosphere of tension, engendered by the struggle between the Soviet bloc and the democracies, had pervaded the nation and “war jitters” seemed to pop up every time an American cast his troubled glance beyond the borders, toward both the Atlantic and the Pacific. Yet, perhaps with repeated shock, the anxiety appeared to be dulled. The East-West conflict came to be regarded as almost an inseparable element of the international way of life—a manageable conflict that would not lead to war.

The people of the United States, in 1948, sought peace, and sought it as fervently as ever. Yet with the desire for peace the people unflinchingly supported calculated risks that might have brought on war. The decision was made and widely endorsed not to abandon the shattered nations of Europe to the onslaught of surging totalitarianism. The course, manifested without fanfare in the day-to-day operations of the Marshall Plan, was drama-

tized by the Berlin airlift, predominantly an American answer to the Russian blockade of Berlin. In other words, during the year, there grew up a we-meant-business approach to peace. After an internal struggle of necessity versus conscience and tradition, the country put its stamp of approval on the first peacetime draft in its history, a burgeoning Army, Navy, and Air Force, a record rearmament burden. Although, in an election year, partisan politics held the stage, party differences were subordinated in international affairs and a bipartisan foreign policy functioned with a remarkable degree of success.

America's role in the affairs of the world hinged on the strength of the United States economy. The state of the union was good. Statistically, at least, the country was riding on the crest of a wave of unprecedented prosperity. National income hit a peak of about \$211,000 million. National productivity, goods and services, was \$252,700 million. New records were set for production and employment. In terms of graphs and curves of statistical tables, the economic welfare of the country was as sound as a dollar.

But the dollar, or rather what the dollar was worth, was one of the big constants in the changing 1948 scene. Inflation on the spiral caused distress to millions. Wages went up and living costs bounded after them as prices went up in the ever-circling ascent. Housing was expensive and scarce; rents, although under control, crept up. Only at the end of the year were there signs that inflation might have spent its force, and that the brow-beaten consumer might again be coming into the happy state of a sellers' market.

The domestic economy was a study of superlatives. Unemployment was virtually unknown. During the year an all-time employment peak of 63,842,000 persons was attained, in July. Corporation profits after taxes set a new record of \$21,700 million. Labor wrangled with industry over the cost of living, but strikes were at a postwar low. The year produced the biggest harvest in history, and the crop of about 3 million babies pushed the population of the United States to a new high of 148 million. The country had nearly 35 million married couples, but more than 3 million families were living "doubled up" with other families.

The year had its quota of tragedy and lightness, solemnity and gaiety—it was a characteristically good American peacetime year. In one of the worst disasters in aviation chronicles a four-engined, speedy, luxurious airliner crashed suddenly on a ridge in eastern Pennsylvania, killing 43. The city of Vanport, Ore., was wiped off by a great Northwest flood. Death took General John J. Pershing, commander of all American land forces in Europe in World War I; Charles Evans Hughes, retired Chief Justice of the United States; and Babe Ruth.

The nation's laboratories, meanwhile, produced two new antibiotic medicines—chloromycitin and aureomycin, to be added to the fight against disease along with streptomycin and penicillin. Venereal disease finally ceased to be a tabooed word and the campaign against VD was actively pushed. The most talked-of book was a treatise on the *Sexual Behavior of the Human Male*.

The headlines told of a Rockefeller heir marrying a daughter of immigrants, giving actuality to an American fable, while the utopian Shmoo zoomed from the comics into a national fancy. The New York subway, traditionally the greatest nickel bargain in the country, went up to a dime. Man flew faster than sound, without meeting himself coming back or suffering disastrous effects. The

old country store appeared in a 1948 garb, when women took to bearing the laundry, or, better still, sending their husbands, to community clusters of automatic washing machines and "Lauderettes" became the rage. The "give-away" quiz programs on the radio dominated the networks, while television passed from the experimental category to an accepted place in American life.

The Presidency. For three quarters of the year the man who sat in the White House was a thoroughly discredited individual, the butt of wisecracks from all directions. No one questioned the foregone conclusion that he was doomed to defeat, so all the heat and controversy was generated about his possible successor and the policies to be pursued by the new man. The Republican-dominated Congress ignored him; even his own Democratic party sought to jettison him for another candidate. Throughout these nine months of 1948 the President adhered steadfastly, despite mounting rebuffs from all sides, to the advocacy of his program, moving gradually from what was fundamentally a holding operation to continue generally the New Deal doctrine to the espousal of advances beyond the course of Franklin D. Roosevelt. The day after Election Day Mr. Truman, winner in a race nobody but himself was sure he could win, found himself vindicated not only in a personal triumph but in the acceptance of the policies he put forth.

Many of these policies were contained in his annual State of the Union Message of January 7, before a joint session of Congress. The President called for swift action to check "the spiral of inflation," prompt enactment of the European Recovery Program, an alleviation of a tax burden by a cut of \$40 a year a person, and the implementation of these five major goals during the next decade:

1. *Human Rights*—"Secure fully the essential human rights of our citizens," an attack against continued racial and religious discrimination supplemented by a subsequent special message. He renewed his request for statehood for Hawaii and Alaska.

2. *Human Resources*—"Protect and develop our human resources." He advocated the extension of unemployment compensation and old-age and survivors' benefits "to millions who are not now protected." He stressed the need of a national health program and a comprehensive insurance program against ill-health and insecurity. He called for the provision of "adequate education for every person," and the establishment of a new Cabinet post for health, security and education. The President asked for the immediate enactment of a long-range housing program, to reduce housing costs and provide low-cost public housing, for "in the next decade we must see that every American family has a decent home." On rents, he said that "until we can overcome the present drastic housing shortage we must extend and strengthen rent control."

3. *National Resources*—"Conserve and use our national resources by the most effective means possible"—through the stockpiling of scarce materials, battling against erosion, the expansion of reclamation, the protection and restoration of forests and the construction of more "multiple purpose" dams.

4. *Living Standards*—"Lift the standard of living for all our people." Although the average individual income had advanced more than 50 percent in the last ten years the country's objective should be a doubling of the living standard in the next decade. Price support for farm commodities should be maintained. Cooperatives should be encouraged. Extension of the school lunch and rural

electrification programs should be fostered. Over the next few years industry should invest "at least" \$50,000 million in expanded production. The minimum wage should be raised from 40 cents to 75 cents an hour. The President maintained his criticism of the Taft-Hartley Labor Relations Act.

5. *Peace*—"Achieve world peace based on principles of freedom and justice and the equality of all nations." He asserted that "we are giving and will continue to give, our full support to the United Nations." Inasmuch as the United States could be "an effective force for world peace only if it is strong," universal military training was urged. The country's assistance to Greece and Turkey was enabling them to combat "foreign pressures." The United States should lead the way and allow the entry of "many thousands of displaced persons." By the nurturing of world reconstruction, by the easing of tariff barriers, and, most important, by the global assistance program, "we are moving toward our goal of world peace."

Taking cognizance of the third party movement, led by Henry A. Wallace, that denounced the nation's international policies as "war mongering," the President said:

"We are fighting poverty, hunger and suffering. This leads to peace—not war. We are building toward a world where all nations, large and small alike, may live free from the fear of aggression. This leads to peace—not war. Above all else, we are striving to achieve a concord among the peoples of the world based on the dignity of the individual and the brotherhood of man. This leads to peace—not war."

The Chief Executive warned that inflation contained the seeds of "another depression," as both wholesale and retail prices were mounting, and requested again his anti-inflation program, including stand-by wage and price and rationing controls. His \$40 tax-cut proposal was designed to relieve taxpayers in the lower brackets, but would be compensated for by an increase in corporation taxes.

Cabinet. The Executive team, carrying out the laws of the land under the direction of the President, consisted of the following members of the Cabinet:

Secretary of State—George C. Marshall
 Secretary of the Treasury—John W. Snyder
 Secretary of Defense—James Forrestal
 Postmaster General—Jesse M. Donaldson
 Attorney General—Tom C. Clark
 Secretary of Agriculture—Charles F. Brannan
 Secretary of Labor—Maurice J. Tobin
 Secretary of Interior—J. A. Krug
 Secretary of Commerce—Charles Sawyer

Two of the Cabinet members were newcomers, Messrs. Brannan and Tobin. Mr. Brannan, Assistant Secretary since 1944 and before that an official of the department, succeeded Clinton P. Anderson, who resigned to run for the Senate from New Mexico. Mr. Tobin, former Mayor of Boston and Governor of Massachusetts, replaced Lewis Schwellenbach, who died.

Directly behind the Cabinet officers was a corps of officials that approached Cabinet status. In this group were the three armed services chiefs under the Defense Secretary—Kenneth C. Royall, Army; John Sullivan, Navy; and W. Stuart Symington, Air—and Robert A. Lovett, Under Secretary of State, who ran the department during Mr. Marshall's absences abroad on United Nations business and during his operation at the year's closing. In addition to these men there was still another group, such as Clark Clifford and John Steelman, who

were Presidential assistants and advisers and held high rank and influence in Administration circles.

The two Presidential appointments during the year that attracted the most attention were those of Paul G. Hoffman and Thomas B. McCabe. Mr. Hoffman, president of the Studebaker Corporation and one of the nation's leading industrialists, was named as chief of the Economic Cooperation Administration, handling the European Recovery Program. Mr. McCabe was appointed chairman of the Federal Reserve Board; while Marriner S. Eccles, one of the last holdovers from the New Deal era, whose financial policies were at odds with the President's advisers, was demoted to vice chairman.

The White House. During the year the White House was very much in the news, in more ways than one. A furor was stirred by President Truman's plan to construct a \$15,000 second-story porch or balcony inside the pillars of the south portico for the use of the Presidential family. The move was deplored by many on aesthetic grounds. Banknotes bearing a picture of the structure would have to be changed, and the President's use of the balcony would be very limited. The tempest subsided, the balcony was built and it made virtually no difference in the appearance of the White House. More important, however, was the closing of the White House after the election because the 150-year-old mansion was unsafe. The grand staircase was sagging, the original second-hand bricks were disintegrating and the "second floor is staying up there purely from habit." It was estimated that it would cost \$1,000,000 to make the mansion fireproof and secure.

Congress. The President made the record of the Republican Congress, selected by the voters in 1946, the predominant issue of the year, characterizing it as a "do nothing" body and the worst or almost the worst group of legislators in the nation's history. The Congress countered by assailing the stewardship of the President, the policies he had followed and advocated, and his administration of the Federal structure, and indignantly retaliated by describing Mr. Truman as the worst President in history.

Yet, despite the repeated clashes between the Executive and Legislative branches, there was not a complete deadlock legislatively. Under the aegis of Senator Arthur H. Vandenberg, Republican, of Michigan, the chairman of the Foreign Relations Committee, bipartisan support was molded for the containment of Communist totalitarianism. On the other hand, on the domestic side, aside from moves to strengthen defense, few measures pushed by the Administration were enacted. The desire to get out to the hustings and campaign and the conviction of a certain Republican victory led to the postponement of a number of social measures that had bipartisan support and might have been passed otherwise.

Legislation Enacted. The measures enacted by the second session of the 80th Congress principally served to maintain and strengthen the United States role in world affairs. Only a few of the President's economic or civil rights proposals were enacted, either in the regular session or the July 25-August 7 sitting of Congress, after its recall by the President. Taxes led the roster of domestic measures. The major legislation enacted by the 1948 session of Congress was as follows:

The Economic Cooperation Act
 Military Aid for China
 Peacetime Selective Service
 Authorization of a Seventy-Group Air Force

Voice of America Act

A restricted extension of the Trade Agreements Act

A foreign policy resolution voicing support for a united Western Europe

Limited, compromise relaxation of immigration quotas for displaced persons

A \$4,800 million tax reduction

A limited long range farm program

A compromise extension of the terms of the Atomic Energy Commission

A modified extension of rent control

A \$65 million loan for the United Nations headquarters

Of the vetoes of general legislation, as apart from private relief bills, made by the President five were overridden by the Republican Congressional majority, abetted by a substantial number of Democrats, and one was sustained. Vetoes overridden were the income tax reduction, the exemption of news vendors from social security coverage, legislation limiting old-age insurance, an appropriation measure carrying a rider transferring the United States Employment Service from Labor Department to the Federal Security Agency and a measure exempting railroad rate agreements from anti-trust statutes. The veto sustained was of a bill for investigation by the Federal Bureau of Investigation of appointees to the Atomic Energy Commission. Six of President Truman's vetoes altogether were overridden by both sessions of the Eightieth Congress, the most in one Congressional term since Andrew Johnson's day. A record was set when Congress overrode three—social security, Labor-Federal Security, and rail rates—all in one week.

During the recalled session after the conventions Congress passed a limited bank and consumer credit control bill and a bill to stimulate housing, both of which were a far cry from the President's stipulations. None of the rest of the program he submitted to the "special" session was touched, save the loan for the United Nations headquarters in New York City.

Legislation Unpassed. Although the President sought, through public pressure and special messages, to spur enactment of various measures, there is a long list of legislation that failed to be enacted, as follows:

Inflation Controls

A long-range housing program

Expanded social security

Health insurance

Aid to education

Increased minimum wage

Control of tideland oil reserves

Revision of the tax structure

Proposed outlawry of the Communist party

Legislation tightening Government loyalty tests

Legislation against lynching and against the poll tax

A proposed equal rights amendment

Universal military training

Statehood for Hawaii

Elimination of restrictions on oleomargarine

Foreign Legislation. An historic program to maintain a free world and contain the sweep of Communist Russia was embodied in the Foreign Economic Cooperation Act, enacted by Congress with unparalleled swiftness as Czechoslovakia was swept under, Scandinavia was threatened and the fate of Italy and France hung in the balance. Under the program, dedicated to European stability as an integral element of world peace, the following were authorized: \$5,300 million for the nations participating in the ERF; \$275 million for military

aid to Greece and Turkey; \$463 million for aid to China; \$20 million for rehabilitation in Trieste; \$60 million for the UN Children's Emergency Fund. A House Republican clique, using what Senator Vandenberg called "meat-axe techniques," sought to trim the program. Finally \$6,031 million was appropriated.

The Information and Educational Exchange Act of 1948 granted legislative sanction to the Voice of America overseas broadcasts and authority to the State Department to disseminate information through various media and to exchange educational data and students.

The extension of the Reciprocal Trade Agreement measure, for only one year, with modifications and impairments, instead of three years, was denounced by the Administration as a drastic blow against "the cornerstone and keystone of our foreign economic policy."

The foreign policy resolution adopted by Congress condemned the unrestrained use of the United Nations veto, but principally endorsed "the association of the United States" with collective arrangements by other nations, affecting its national security. Participation in a number of UN agencies was approved by Congress. The Senate ratified peace treaties with Italy, Rumania, Hungary, and Bulgaria. The demands of the cold war on the American taxpayer for 1948 in recovery, relief, and defense activities amounted roughly to \$20,000 million.

Inflation Legislation. Congressional committees held innumerable hearings on the problems of inflation but the mountain of labor produced what might by courtesy be called a mouse. The President wanted stand-by powers to ration and impose ceilings on commodities in limited supply, wage ceilings when necessary, certain inventory controls, and a number of other powers. Congress passed only the credit controls.

Rent. The Housing and Rent Act of 1948 was accepted by the President with the observation "I had no choice but to sign." Between April, 1942, when Federal rent control was set up, and June, 1946, rents rose slightly more than one percent. Since then rents went up about six percent, fundamentally because of the relaxations in last year's act. The new act continued the policy of relaxation, while generally holding the line for the rentals of 50 million persons in 13 million controlled housing units. The act did the following: extended the 15 percent voluntary increase provision though it barred pyramiding, decontrolled non-housekeeping rooms in private dwellings, provided for the relief of landlords able to show operating losses because of controls and permitted evictions, on 60 days' notice, for remodeling or occupancy by the landlord's family. The Emergency Court of Appeals was authorized to review differences between local rent advisory boards and the Federal Housing Expediter, administering rent control.

Housing. Congress had before it, with the backing of the President, the Taft-Ellender-Wagner long-ranging housing bill. What Congress enacted was a much weaker measure. It provided government guarantees up to 90 percent of loans to builders of apartment houses costing no more than \$8,100 per unit; guarantees up to 80 percent for construction of houses \$6,000 or less; guarantees to insurance companies for large rental projects; and guarantees for houses in the \$6,000-\$11,000 bracket. The pressing need—low-cost housing in volume—was passed over. It was estimated that the construction of new units in 1948 would be about 800,000, less than 1947's figure of 849,000 and

1925's record of 937,000. Continued high costs coupled with growing buying resistance had a definite impact on housing.

Defense Legislation. The United States military establishment—land, sea, and air—cost about \$11,750 million this fiscal year. In a special rearmament message, the President advocated quick adoption of universal military training and temporary restoration of selective service to show that the United States would "remain strong enough to support those countries of Europe which are threatened with Communist control and police-state rule." Over Administration protests against military unbalance Congress overwhelmingly approved legislation for a 70-group Air Force. The Navy bill provided for an aircraft carrier for jet-propelled long-range planes and new anti-submarine craft.

Women's reserve units in the armed services received regular status. Legislation reforming court-martial procedure was adopted. The Army's organized reserve components were strengthened, and a number of minor actions were taken to benefit veterans of World War II.

Draft. While universal military training was left up in the air, Congress pushed through, over formidable opposition, the Selective Service Act of 1948. The measure's main provisions provided: registration by all men 18 through 25 years of age at local draft boards; the drafting of men 19 through 25 by age and birth dates rather than by a lottery; service for 21 months; voluntary one-year enlistments by 18-year-olds that would free them from subsequent service; deferments for married men, men with dependents, men with essential jobs, students of certain classes; exemption for veterans of at least 90 days' service or members of National Guard or reserve units.

The stroke of the President's pen signing the measure set in motion a wide expansion of the armed forces, designed to bring the Army, needing the bulk of the draftees, from 548,000 to 790,000; the Navy from 389,086 to 434,675; the Marine Corps from 81,723 to 89,225; and the Air Force from 382,000 to 444,500. With other legislation, the total authorized strength of the armed services was set at 2,160,200.

At the closing of the year Secretary Forrestal issued his first annual report, in which he found still a number of kinks in the unification of the armed services and urged strengthened authority for the head of the National Defense Establishment and for authority to aid allies of the United States militarily without Congressional sanction.

The report also revealed bizarre advances in military science as it told how the armed forces were studying rocket space-ships in the light of a possible military outpost, an "earth satellite vehicle," that would revolve around the earth like a little moon.

Atomic Energy. The veil of secrecy hung over the world's most potent force both for peace and war, the development of atomic energy. Control of the force was a major issue in international forums, without a satisfactory conclusion. At home the continuing struggle for atomic control between the military and civilian scientists found the civilians still on top, though controversy was aroused at a Republican political "compromise," in response to the President's renomination of the five Atomic Energy Commissioners for staggered terms as required by the Atomic Energy Act. The Republicans did not want the AEC's membership—particularly Chairman David E. Lilienthal—frozen when they were expecting a GOP victory. As a result the terms of all the commissioners, amidst cries of

"politics," were extended to June 30, 1950. United States laboratories applied atomic energy for peace as well, shipping radioactive isotopes, principally radio-active phosphorus, for the treatment of leukemia and other blood diseases, to 21 countries during the year.

Fiscal Legislation. Expenditure during the current fiscal year was estimated at slightly more than \$42,000 million and revenue, as a result of increased national income, was estimated at least at a par to bring about a balanced fiscal picture. Defense took more than a quarter of the national budget, international affairs took a little more than one-eighth, so did veterans' affairs, the interest on the public debt represented slightly less than one-eighth, and all other expenditures consumed more than one-quarter.

Excise taxes were continued at their wartime rates. Increases in certain postal rates were enacted, effective Jan. 1, 1949. The lending authority of the Reconstruction Finance Corporation was limited.

Taxes. In 1948, after having been set back twice in 1947, the Republican Congress finally got through, over another Presidential veto, the tax reduction measure it had pledged in the last campaign. Although castigated by the President as a measure that would "undermine the soundness of our Government finances at a time when world peace depends on the strength of the United States," the bill was carried by substantial margins in short order. It provided the following: increases for each taxpayer and dependent in personal exemptions from \$500 to \$600; nation-wide application of the "community-property" pooled return provisions for married couples; rate cuts of 12.6 percent on taxable income up to \$2,000, 7.4 percent from \$2,000 to \$136,719, and 5 percent on incomes above the latter figure. It was estimated that the cuts entailed a revenue loss of close to \$5,000 million.

Displaced Persons. In 1948, many, many months after the ending of the war and after initial action had been proposed, the United States finally lived up to its great tradition as a haven for the oppressed and the homeless. Almost three and a half years after the end of hostilities a boatload of 800 of Europe's displaced persons reached our shores, the vanguard of the 205,000 DP's to be admitted under immigration quota relaxation adopted by Congress. The President, who had repeatedly asked Congress for legislation to allow a substantial number of DP's to come in accepted the measure as better than nothing but assailed it as discriminatory. The legislation, which charged up DP's against future immigration quotas and stipulated exhaustive investigation to weed out Communists, imposed severe limitations and classifications and was criticized as operating against Jews and Catholics, many of whom had been the prime victims of Hitler's persecutions. Nevertheless, the first trickle did toward the close of the year pass by the statue of Liberty, a harbinger of more to come and of new strength for the nation.

Farm and Economic Legislation. There was little activity, with farmers riding on a crest of prosperity, in the agricultural field. In a special message to Congress the President submitted a consolidated long-range farm program covering a wide range of agricultural economics and agronomy. In Congress preliminaries advanced for the development of a permanent long-range farm program, but there was disagreement between the two Houses and there was finally enacted a continuation of the existing price support program until June 30, 1950,

under which cotton, wheat, corn, rice, peanuts, tobacco, hogs, poultry, eggs, dairy products, and potatoes would be supported at 90 percent of the parity price, while the supports for certain other commodities, including soybeans and flaxseed, could be cut from 90 percent to a 60 percent minimum at the discretion of the Agriculture Secretary. The joint United States-Mexico program to eradicate the foot-and-mouth disease south of the border was, after much tribulation and dubious success because of peon opposition, finally abandoned during the year.

The most outstanding development in the agricultural field was the legislation that almost passed. For 60 years, since oleomargarine first was produced, the butter substitute had been surrounded by state and Federal restrictions. The sale of colored margarine is banned or taxed; margarine producers and retailers are required to pay Federal license fees. With butter prices soaring there was increasing consumer pressure to end the restrictions on the less expensive substitute. Cottonseed and soybean interests supported the move, dairy interests opposed it. It was a fight of long standing, and in 1948 the margarine forces broke through the barricaded pigeonholes of part of Congress when a repealer passed the House, only to lose out in the Senate where small dairy states carry as much weight as large urban states and where the measure was tabled under the pressure of time. It was the most notable advance by the margarine forces in years.

Congress in 1948 scrutinized its work in the labor field during the previous session—the Taft-Hartley Labor-Management Relations Act and the anti-Portal-to-Portal Pay Act—and found them good. As a result no important legislative activity in the labor field took place. There were a number of investigations of the influence of Communists in certain unions.

Social Legislation. There was substantial support in both Houses of Congress for a rise in the 40-cent minimum wage of the Fair Labor Standards Act. But this measure, equally important in the labor field, made no progress, and neither did any other social legislation despite promptings by the President. The various proposals for aid to education, increased social security, and health insurance made little headway, though a fractional part of the Chief Executive's program made some progress through the House. It would have extended old-age insurance to only 3,500,000 persons employed by tax-exempt institutions and state and local governments. The Republican confidence in a November election victory was to a great degree responsible for the feeling that social legislation could be shelved safely for at least a year.

Civil Rights. The implementation of the civil rights guaranteed by the Constitution received much attention in the country. It was a factor in the elections, when southern Democrats, upholding the traditional mores, rebelled against their party's stand and formed another party, the Dixiecrats. In Congress problems of race received probably more attention than at any time since the days of Reconstruction after the Civil War. Although the results were negligible, the effect was salutary. A number of aspects of racial segregation also were pricked by Supreme Court rulings.

Twenty states still have laws making obligatory racial segregation in public places. In 17 states compulsory segregation is applied in public schools. Poll-tax requirements hamper the right to vote in 7 states. There have been at least 44 lynchings in the United States since 1936. Latent prejudice—

and some of it not very sub rosa—against minority groups manifested itself in many aspects of economic and social life. The Ku Klux Klan showed signs of regained strength and was on the march in some southern areas, particularly Georgia. Crosses were burned in front of Negro and Jewish dwellings.

Against this background President Truman submitted to Congress a special civil-rights message, calling for the enactment of the following 10-point program:

Establishment of a permanent commission on civil rights, a joint Congressional committee on civil rights and a civil rights division in the Department of Justice.

The strengthening of existing civil rights statutes.

The classification of lynching as a Federal offense, taking its prosecution out of the jurisdiction of local and state governments.

More adequate protection of the right to vote, accompanied by the abolition of the poll tax and the "white primary."

Establishment of a Fair Employment Practice Commission to prevent unfair employment discrimination.

The outlawry of "Jim Crow" restrictions in transportation facilities, restaurants and schools.

The provision of home rule and suffrage in Presidential elections for the voteless residents of the District of Columbia.

The granting of statehood for Hawaii and Alaska and a greater degree of self-government for United States territorial possessions.

Equalization of the opportunities of residents to become United States citizens.

Settlement of the evacuation claims of Japanese-Americans.

In Congress an anti-poll tax bill sailed by the House, but was relegated to a secondary place on the theory that an anti-lynching bill would command more Senate support. In the closing days of the session an anti-lynching bill was produced by a Senate committee but it was lost in the legislative jam of adjournment. Civil rights also came up as riders to various appropriations and other measures to keep the pot boiling through the session, but the only step to get by Congress was an amendment to the draft law exempting from poll taxes members of the armed forces, which had been in effect during the war and even this was beset by strong opposition from southern legislators.

After six years of social and economic upheaval some 60,000 Japanese-Americans were back on the West Coast and were encountering first hostility, then, acceptance with public enthusiasm and private reserve. These wartime victims also encountered much economic loss; many who had leased their lands were unable to regain control and the dominant position of the Japanese in West Coast agriculture disappeared. Half of the evacuees never returned and spread instead over the rest of the country. But there was progress to report in this civil rights sector, too.

Communism. The conflict between Eastern communism and Western democracy on the international scene was transmuted on the domestic scene. It was translated into a drive against domestic communism before a background of national security, on the one hand, and concern over the rights laid down by the Constitution, on the other. Allegations of subversive activities and Communist espionage, featuring episodes that appeared bizarre to most Americans, filled the air and the headlines for a good part of the year and the unresolved is-

sue of who was the liar—Hiss or Chambers—became a cause célèbre.

In Congress the Mundt-Nixon bill to curb the Communist party, that had been established in the United States in 1919 with seventy-six members and in 1948 claimed a membership of 75,000, was overwhelmingly approved by the House. Without specifically naming the Communists the measure sought to make illegal efforts "to establish in the United States a totalitarian dictatorship" under foreign control and to require registration of Communist party members. One of the most controversial bills to come before Congress, it was assailed as to its constitutionality and its effectiveness on the ground that its objectives would be nullified by driving the Communists even more underground. The measure was left locked in a Senate committee.

The Government's investigation of the loyalty of employes in the Federal establishment continued apace, with only a tiny fraction of a percent found even questionable. "Sensitive" agencies, such as the military, the State Department, the Atomic Energy Commission, received absolute authority to discharge "indiscreet or disloyal employes." One new anti-subversion measure was added to the statute books when the immigration laws were amended to deny admission to persons deemed by the Attorney General to be seeking entry "for the purpose of engaging in activities which will endanger the public safety."

After 13 months of investigation a continuing blue ribbon Federal grand jury in New York brought in indictments against the 12 ranking figures of the American Communist party on charges of having violated the Alien Registration Act by having conspired to overthrow the Government through violent and seditious means and through the issuance of printed material and other actions for this purpose. Best known of the 12 indicted were William Z. Foster, thrice the party's candidate for President; Eugene Dennis, general secretary; and Benjamin J. Davis, Communist member of the New York City Council.

New York was also the scene of another phase of the East-West clash—the case of the Russian school teacher's fight and flight for freedom, including a suicide leap. Mrs. Oksana Stepanova Kasenkina was scheduled to return to Russia, along with other teachers, upon the completion of their services at a Soviet private school here. The teachers, Mrs. Kasenkina and Mr. and Mrs. Mikhail Ivanovitch Samarin, stayed ashore. Mrs. Kasenkina took sanctuary at a white Russian refuge, a farm run by Countess Tolstoy. From this she was "rescued" by members of the Russian consular staff in New York and held incommunicado within the Consulate. Then she leaped from the third story building of the Consulate, either in an attempt at suicide or escape. The Russians continued to seek possession of Mrs. Kasenkina and the United States rejected the moves. Stiff notes were exchanged and the United States requested the withdrawal of the Soviet Consul General, Jacob M. Lomakin.

Un-American Activities. Moving into action in the wake of the Justice Department and its grand jury, the House Committee on Un-American Activities acted as usual, with a blaze of publicity, to develop publicly the findings in camera. The result was a series of spectacular and dramatic hearings, though inconclusive. The committee during the whole year failed to press its unsubstantiated allegations against Dr. Edward U. Condon, as one of the "weakest links" in atomic security. It also provided a dramatic twist of its own. Its chairman, Representative J. Parnell Thomas, Republican, of New

Jersey, was indicted by a Federal grand jury in Washington on charges of having misused fraudulently funds for his office and committee staffs. Mr. Thomas, who has deprecated the attitude of witnesses before his group for the disinclination to answer questions, especially on constitutional grounds, himself refused to answer questions—on the constitutional ground of self-incrimination.

Two repentant Communists filled the committee's hearing room with a plethora of charges and accusations, which the accused almost simultaneously denied. None of the charges, of deep significance to national security if valid, was proved to any degree of definiteness, though the fanfare of publicity was overwhelming. The hearings, at year's end, were still "in medias res."

The first outpouring of extravagant and unsupported charges came from Elizabeth T. Bentley, fortyish Vassar alumna, a Communist party member during 1935-44, during which time she said she transmitted much secret data from Washington to Soviet agents. The information was allegedly received from Government officials. Whittaker Chambers, a Communist during 1924-37, afterward an editor of *Time*, said he had been a "courier" for an "apparatus" engaged in infiltration work.

A parade of former Government officials appeared before the committee to deny the allegations by the two—Lauchlin Currie, former administrative assistant to President Roosevelt; William W. Remington, high official in the Commerce Department; Harry Dexter White, former Assistant Secretary of the Treasury and progenitor of the Bretton Woods agreement; and secondary executives. Some few of the latter parried interrogation or declined to answer on constitutional grounds. To the drama of the hearing, thronged with spectators, ablaze with the glare of television lights, was added the drama of Mr. White's death, shortly after questioning by the committee while suffering from a heart condition.

Hiss-Chambers. The whole pattern of contradiction, of charge and denial, became personified in the figures of two men—Mr. Chambers, senior editor of a responsible publication, and one of the chief targets of his accusations, Alger Hiss, executive secretary of the Dumbarton Oaks Conference, general secretary of the United Nations Charter Conference in San Francisco, adviser to President Roosevelt at Yalta, and currently president of the Carnegie Foundation for International Peace. Mr. Chambers alleged that an important official in the Roosevelt Administration, Mr. Hiss, former chief of the State Department's Office of Special Affairs, had been a dues-paying Communist and a valuable source of information. Mr. Hiss denied he was or had ever been a Communist, at first was unable to place his accuser, then identified him by another name as a man to whom he had subtlety his apartment.

Pumpkins. The committee staged a public "confrontation" of the two men. Each labeled the other's story fabrication. When Mr. Chambers repeated his allegations on the radio outside the privileged committee room, Mr. Hiss brought suit for libel. In the course of pre-trial examination on this suit, Mr. Chambers drew forth documents allegedly stolen from the State Department. Later he led agents of the Un-American Activities Committee to his Maryland farm and there, from a scooped-out pumpkin, produced rolls of microfilms of state papers that he had had for ten years. He laid to Mr. Hiss the procurement of the papers—some 200 secret documents stolen from the State Department and copied for transmission to a for-

eign power, Soviet Russia. Mr. Hiss denied the Chambers accusations that he had taken and copied the papers. Toward the closing weeks of the year the New York grand jury brought in an indictment against Alger Hiss, charging him with perjury. Thus, in 1949, when the perjury charges come before the courts, it may be determined which of the two men was lying—the crucial question the committee never was able to decide.

Cost of living. Although they were concerned with many things, foreign and domestic, the American people chiefly were concerned with the high cost of living. This was undoubtedly the chief issue in the election campaign, as the President assailed the lack of activity by Congress against the inflationary spiral and the Republican legislators pinned their faith on the operation of traditional economic laws. Certain labor groups got wage increases but still were squeezed, while unorganized labor, white collar workers, pensioners, and people living on fixed-incomes generally were hard put to make ends meet. Consumer resistance, although unmarshalled and not vociferous, was exercised by many segments of the population.

In the early part of the year there was a sharp break in the commodity market. Wheat, corn, and other grain commodities tumbled, and there was a slight decline in the non-food categories. But in a few short weeks the visions of hard-pressed consumers of lowered food prices and the fears of some economists that a "bust" had set in had all been dissipated. By the end of March the flurry of the commodity exchanges was over, and living costs were up again to their January peaks. Sparking the inflationary flame, aside from the speculative character of the commodity flurry, were the third round of wage rises and the purchasing of goods for the European Recovery Program. Along the middle of the year prices advanced in many fields. Automobiles went up again. So did household and electrical appliances and industrial equipment. Primary market prices edged up with advances for foods, chemicals, and allied products.

The "creeping" inflation, in which prices go up—not with the explosiveness of a "boom-and-bust" rampage—but gently enough not to arouse the citizenry to demonstrations or large-scale buying strikes, continued as Congress quit and the political conventions began. With 1935-9 as 100, food prices, according to the Bureau of Labor Statistics, stood around 215. The worth of the dollar in purchasing power, 68.2¢ in 1947, was 60.6¢.

Market-basket items carried these prices: a pound of round steak, 91¢; chuck roast, 64¢; a No. 2 can of corn, 20¢; a No. 2½ can of peaches, 31¢; a pound of butter, 94¢; a pound of coffee, 53¢; a dozen eggs, 65¢; and a delivered quart of milk, 21¢. In many communities, moreover, these average prices would have seemed low.

The state of the economy just around election time, as there occurred a fractional drop in the cost of living index, stood something like this in its course since the war:

Year	Prices	Wages	Profits
1945.....	100	100	100
1946.....	108.5	98.5	147.1
1947.....	124.0	110.9	208.0
1948.....	135.2	123.1	234.5

In the early fall, for the first time in a year, retail meat prices declined, and for the remainder of the year the inching-down process continued but in such tiny degrees that it was almost imperceptible. With the average family spending about 12 percent of its income on meat, this is the most

important food item in the outlay for the family larder. The following shows the course of meat prices over the last two years:

Meat	Oct. 7 1948	Aug. 15 1948	(O.P.A.) Oct. 7 1948
	1948	1948	1948
Pork roast.....	\$0.73	\$0.83	\$0.43
Lamb shoulder.....	0.81	0.93	0.56
Sirloin steak.....	0.99	1.05	0.55
Chicken broilers.....	0.53	0.57	0.50

Toward the end of the year there were signs that the economic boom had lost its ruddy flush though the picture was one of continuing health rather than of sudden collapse. In some areas there was spotty unemployment and downward business trends, but prices were still way up, production rolling, and employment at high levels.

The whole year had been spent on a lofty economic plateau as far as most of the American people were concerned, and toward the end of 1948 there began to be discovered some valleys in the plateau. Prices of farm commodities were down; in some cases farm products were approximately at the Government price support level. Farm production, on the other hand, was up an estimated 8 percent above that of 1947.

Weak spots in the economy developed in textiles in particular among the soft goods, and sales of men's clothing and furnishings were reported lagging. Small durable goods, such as radios, vacuum cleaners, refrigerators, and electric toasters, also were encountering sales' difficulties.

Labor. The impact of labor unrest was felt less in 1948 than in 1947, though the two years were closely similar in being far below the record number of strikes in 1946. Strikes during the year cost the nation 33 million man-days in contrast to the 34,560,000 man-days of last year.

Labor began the year nursing its wounds. The "slave labor" Taft-Hartley Act had been imposed over its last-ditch opposition, and all that remained, aside from continued agitation for its repeal, was to growl at the "vested interests" that were back in the saddle. While supporters of the Taft-Hartley Act held that it had been effective in curbing certain types of strikes, such as secondary boycotts and jurisdictional disputes, opponents contended that the law had failed to reduce strikes and in some instances actually had fomented them. Labor also was faced with three crucial decisions: its attitude toward the third political party under the aegis of former Vice President Henry Wallace, its stand on the Marshall Plan to aid global recovery; and its position toward adjustments in the stratospheric cost of living picture. Particularly in the Congress of Industrial Organizations there was internecine strife between the Right and scattered unions dominated by Communists and fellow-travelers. Furthermore, the 1946 debacle, from labor's viewpoint, which had brought a changeover of Congress from Democratic to Republican control and the Taft-Hartley law, had left labor scared and determined to galvanize its cohorts into more spirited political activity.

The largest of all the strikes during the year was that of the soft-coal miners over pensions, involving some 350,000 miners. In March and April the United Mine Workers were out of their pits as a result of a dispute resulting from a proposal by their leader, John L. Lewis, of pensions of \$100 a month for those of age 60 and with 20 years' service—a proposal that the operators opposed because the inclusion of miners already retired would exhaust the union-industry pension fund.

Finally the pension deadlock was broken as Republican House Speaker Joseph W. Martin, Jr. intervened. The result was a notable triumph for the Republican labor leader and his miners. Mr. Lewis, who with the UMW, had only 13 months earlier suffered a crushing defeat by the Government and the courts and a \$710,000 fine, tilted again with the Government when Federal attorneys sought a contempt finding by the courts for his alleged defiance of a Government injunction against the strike.

Another major dispute along the same period was that of the CIO packing-house workers, in which 85,000 were idle and 3 were killed in picket line violence. The strike, called to obtain an increase of 29¢ an hour, was unsuccessful after one of the longest work stoppages of the year.

Third round wage differences mounted in intensity toward midyear, as labor contended that increases were due in view of the resumed climb in prices and the advance in corporate profits, 250 percent above 1939 and roughly 40 percent above 1946. Management, in turn, held that wages had to be held down to avoid further stimulus of the inflationary spiral. The principal areas of intensity were the railroad brotherhoods, the UMW and the CIO's United Automobile Workers. The Government seized the railroads before any work stoppage developed, but 45,000 auto workers went out at Chrysler. The miners won \$1 a day and other gains. John R. Steelman, Presidential labor adviser, after lengthy mediation, brought about a rail settlement. Chrysler workers won an increase of 13¢ an hour.

Without a strike a major settlement, likely to have an important influence on labor agreements, was achieved between the UAW and the General Motors Corporation. Although the principle of an "escalator" was in vogue in many contracts, the size of the bargaining parties gave it stature. Under the terms of the 11¢ increase part was allowed as a permanent bolster to living standards and part as a variable moving up or down in accordance with cost of living indices.

The other major strikes occurred on the maritime front—the three-month tie-up of 28,000 CIO longshoremen and seamen on the West Coast and the strike on the East Coast of longshoremen belonging to the American Federation of Labor. In the latter case the issue was wages; in the former the primary issue was the union hiring hall, which was opposed by employers as illegal under the Taft-Hartley Act. For a time, toward the latter part of the year, America's export-import trade and essential Marshall Plan aid shipments were at a standstill as both the East and West Coasts were paralyzed.

The West Coast strike was one directly involving the Taft-Hartley law, but it was an issue in labor management relations throughout the year. Most of the tests, however, were through the lengthy course of the judicial process, where the real meaning of its process was being determined. One of the principal points at issue, the law's ban against political expenditures by unions, was put to the test by Philip Murray, CIO president. The ban was ruled invalid by the courts. The law fostered some strikes—principally that by the printers. On the other hand, it reduced union jurisdictional disputes and made some headway in curbing "featherbedding" practices. The real tests were still ahead—in the legal opinions of the courts—when the reelection of President Truman became a harbinger of the repeal of many sections of the act.

The CIO lashed out against its leftists in its

annual convention in November, defeating their moves of sympathy with the Soviet Union and opposition to the Marshall Plan. The organization also rebuked its left-wing unions and took steps to trim the power of some.

Both the AFL and the CIO were highly active in the political campaign, and most observers credited their activities with a large share of responsibility for Mr. Truman's victory and the defeat of many Congressmen regarded as foes by labor.

—SAMUEL A. TOWER

UNIVERSAL DECLARATION OF HUMAN RIGHTS. The Universal Declaration of Human Rights, nearly three years in preparation, was adopted and proclaimed by the General Assembly of the United Nations on Dec. 10, 1948, in Paris. The vote was 48 to 0 (nine members abstained from voting—the U.S.S.R. bloc, Saudi Arabia, and the Union of South Africa). This Universal Declaration of Human Rights is the first part of an International Bill of Human Rights, the two other parts being a Convention on Human Rights and measures for implementation, on both of which work is going ahead. The complete text of the Universal Declaration of Human Rights, as approved by the General Assembly of the United Nations, follows:

International Bill of Human Rights

Universal Declaration of Human Rights

Preamble

WHEREAS the recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world,

WHEREAS, disregard and contempt for human rights have resulted in barbarous acts which have outraged the conscience of mankind, and the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people,

WHEREAS it is essential, if man is not to be compelled to have recourse, as a last resort, to rebellion against tyranny and oppression, that human rights should be protected by the rule of law,

WHEREAS it is essential to promote the development of friendly relations between nations,

WHEREAS the peoples of the United Nations have in the Charter reaffirmed their faith in fundamental human rights, in the dignity and worth of the human person and in the equal rights of men and women and have determined to promote social progress and better standards of life in a larger freedom,

WHEREAS Member states have pledged themselves to achieve, in co-operation with the United Nations, the promotion of universal respect for and observance of human rights and fundamental freedoms,

WHEREAS a common understanding of these rights and freedoms is of the greatest importance for full realization of this pledge,

NOW THEREFORE THE GENERAL ASSEMBLY

PROCLAIMS this universal declaration of human rights as a common standard of achievement for all peoples and all nations, to the end that every individual and every organ of society keeping this declaration constantly in mind shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance, both among the peoples of the Member states themselves and among the peoples of territories under their jurisdiction.

ARTICLE 1

All human beings are born free and equal in dignity and rights. They, endowed with reason and conscience, should act toward one another in a spirit of brotherhood.

ARTICLE 2

Everyone is entitled to all the rights and freedoms set forth in this declaration without distinction of any kind such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status.

Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which the person belongs, whether it be an independent, Trust, or Non-Self-Governing territory, or under any other limitation of sovereignty.

ARTICLE 3

Everyone has the right to life, liberty and the security of person.

ARTICLE 4

No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms.

ARTICLE 5

No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.

ARTICLE 6

Everyone has the right to recognition everywhere as a person before the law.

ARTICLE 7

All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.

ARTICLE 8

Everyone has the right to effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.

ARTICLE 9

No one shall be subjected to arbitrary arrest, detention or exile.

ARTICLE 10

Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

ARTICLE 11

1. Everyone charged with a penal offense has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all guaranties necessary for his defense.

2. No one shall be held guilty of any penal offense on account of any act or omission which did not constitute a penal offense, under national or international law, at the time when it was committed. Nor shall a heavier penalty be imposed than one that was applicable at the time the penal offense was committed.

ARTICLE 12

No one shall be subjected to arbitrary interference with his privacy, family, home or corre-

spondence, nor to attacks upon his honor and reputation. Everyone has the right to the protection of the law against such interference or attacks.

ARTICLE 13

1. Everyone has the right to freedom of movement and residence within the borders of each state.

2. Everyone has the right to leave any country, including his own, and to return to his country.

ARTICLE 14

1. Everyone has the right to seek and to enjoy in other countries asylum from persecution.

2. This right may not be invoked in the case of prosecutions genuinely arising from non-political crimes or from acts contrary to the purposes and principles of the United Nations.

ARTICLE 15

1. Everyone has the right to a nationality.

2. No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

ARTICLE 16

1. Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family. They are entitled to equal rights as to marriage, during marriage and at its dissolution.

2. Marriage shall be entered into only with the free and full consent of the intending spouses.

3. The family is the natural and fundamental group unit of society and is entitled to protection by society and the state.

ARTICLE 17

1. Everyone has the right to own property alone as well as in association with others.

2. No one shall be arbitrarily deprived of his property.

ARTICLE 18

Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or beliefs in teaching, practice, worship and observance.

ARTICLE 19

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

ARTICLE 20

1. Everyone has the right to freedom of peaceful assembly and association.

2. No one may be compelled to belong to an association.

ARTICLE 21

1. Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.

2. Everyone has the right of equal access to the public service in his country.

3. The will of the people shall be the basis of the authority of government; this will shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures.

ARTICLE 22

Everyone, as a member of society, has the right to social security and is entitled to the realization through national effort and international co-operation and in accordance with the organization and resources of each state, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.

ARTICLE 23

1. Everyone has the right to work, to the free choice of employment, to just and favorable conditions of work and to protection against unemployment.

2. Everyone, without any discrimination, has the right to equal pay for equal work.

3. Everyone who works has the right to just and favorable remuneration insuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection.

4. Everyone has the right to form and to join trade unions for the protection of his interests.

ARTICLE 24

Everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay.

ARTICLE 25

1. Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

2. Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection.

ARTICLE 26

1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

2. Education shall be directed to the full development of human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups and shall further the activities of the United Nations for the maintenance of peace.

3. Parents have the prior right to choose the kind of education that shall be given to their children.

ARTICLE 27

1. Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary, or artistic production of which he is the author.

ARTICLE 28

Everyone is entitled to a social and international order in which the rights and freedoms set forth in this declaration can be fully realized.

ARTICLE 29

1. Everyone has duties to the community, in which alone the free, full development of his personality is possible.

2. In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society.

3. These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.

ARTICLE 30

Nothing in this declaration may be interpreted as implying for any state, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.

UNIVERSALIST CHURCH. A religious group which originated in the United States about 1785. The bond of fellowship in this Church "shall be a common purpose to do the will of God as Jesus revealed it and to cooperate in establishing the kingdom for which he lived and died."

The Universalist Church of America. Originally incorporated in 1866 as The Universalist General Convention, it changed to its present name in 1942. In the United States and Canada the group has 436 churches, 497 ministers, and a total of 44,599 members. Income from contributions amounted to \$50,241 in 1947. Total assets amounted to \$1,659,976. President and chairman of the Board: Harold S. Latham; General Superintendent, Dr. Robert Cummins; Secretary, Esther A. Richardson; Treasurer, A. Ingham Bicknell. Headquarters, 16 Beacon St., Boston 8, Mass.

UNIVERSAL POSTAL UNION (UPU). This organization was founded as a result of conferences held in Paris in 1863 and in Berne in 1874, and became a formal body when the International Postal Convention came into force in 1875. An agreement with the United Nations, designed to give the Union status of a specialized agency, was adopted by the Congress, and approved by the General Assembly of the United Nations, Nov. 15, 1947.

"The aim of the Universal Postal Union is to assure the organization and perfection of the various postal services and to promote, in this field, the development of international collaboration. To this end the Members of UPU are united in a single postal territory for the reciprocal exchange of correspondence." The agreement making the Universal Postal Union a specialized agency of the United Nations became formally effective July 1, 1948. UPU has 88 members.

UPU held its 12th Congress in Paris from May 7 to July 5, 1947. Since the Union had hitherto been without a body to act in the interim between congresses, an Executive and Liaison Committee of 19 members was created. It held its first formal session in Berne in October, 1948.

Changes in regulations governing membership were also made; new members will henceforth be admitted by a 2/3 vote of the members of the Union. Applications from Latvia, Estonia, and Lithuania for separate membership were rejected. The membership of Spain was "temporarily suspended." It was decided that Germany, Japan, and Korea should be named as members of the Union, with a special paragraph stating that they were temporarily prevented from adhering to the Convention.

Technical changes in international postal regulations made by the Congress included lowering of certain postal rates, widened franking privileges, and changes to ensure better service for many types of international mail. A temporary Technical Transit Committee was established to find the most equitable basis for the computation of transit rates; it is to report to members of the UPU in 1950. The next meeting of the Universal Postal Congress is scheduled to convene in Brussels in 1952.

The President of the Executive and Liaison Committee is J. J. Le Moitel, Director General of the Posts in France. The Secretary General is Dr. A. Muri of Switzerland. Headquarters: International Bureau, Universal Postal Union, Case Berne 14, Switzerland.

UNIVERSITIES AND COLLEGES. The 1,788 universities, colleges, and professional schools of the United States had a total of 2,408,249 students (full-time, part-time, graduate, and undergraduate students, but excluding extension and correspondence students) of college grade enrolled in the fall term of 1948, an increase of 70,023, or 3 percent, over the number (2,338,226) enrolled in the fall term of 1947, according to the survey made by the U.S. Office of Education. In the accompanying table are listed the enrollment totals, by type of institution, for the fall terms of 1947 and 1948.

ENROLLMENT IN HIGHER EDUCATIONAL INSTITUTIONS, 1947-1948

Type of institution	Fall 1947	Fall 1948	% Change
All institutions	2,338,226	2,408,249	3.0
Universities	1,155,180	1,208,504	4.6
Technical schools	97,760	107,878	10.3
Theological seminaries	16,213	18,193	12.2
Other professional schools	83,288	71,078	-14.7
Liberal arts colleges	580,064	553,418	-4.4
Teachers colleges	162,199	170,205	4.9
Junior colleges	219,349	208,329	-5.0
Negro institutions*	74,173	70,044	-4.8

* All types of institutions of higher learning.

The enrollment of veterans in institutions of higher learning in the fall of 1948 totaled 1,021,038, a decrease of 101,700, or 9.1 percent, from the total of 1,122,738 for the fall of 1947. Of the 1948 total, 575,930 were enrolled in universities, 58,078 in technical schools, 4,921 in theological seminaries, 41,578 in other professional schools, 207,563 in liberal arts colleges, 56,543 in teachers colleges, 53,899 in junior colleges, and 22,526 in Negro colleges of all types.

The 1948 fall enrollment of first-time students in higher educational institutions decreased to 568,768 from 592,846 in 1947, a decrease of 24,078, or 4.1 percent. Universities had 204,490 first-time students enrolled in 1948, technical schools 23,625, theological seminaries 2,399, other professional schools 15,263, liberal arts colleges 150,333, teachers colleges 50,475, junior colleges 102,961, and Negro institutions of all types 18,952 first-time students enrolled.

There were 1,712,283 men and 695,966 women enrolled in higher educational institutions in the fall of 1948. Of the total enrolled for the first time in any college, 369,924 were men and 198,844 were women. Veterans enrolled in the fall of 1948 included 1,000,942 men and 20,096 women.

In the fall of 1948 there were 1,190,441 students enrolled in publicly controlled institutions of higher learning and 1,217,808 in privately controlled institutions of higher learning.

According to the survey of the U.S. Office of Education, 12 institutions of higher learning had 20,000 or more enrollments each in the fall of 1948.

They were: New York University, University of California, City College of New York, Columbia University, University of Minnesota, University of Illinois, Ohio State University, Northwestern University, University of Indiana, University of Southern California, University of Wisconsin, and University of Michigan.

States of the United States with total enrollments over 100,000 for the fall of 1948 in institutions of higher learning were: New York 308,436, California 190,650, Illinois 152,521, Pennsylvania 148,949, Ohio 140,253, Texas 126,228, and Michigan 101,229.

The statistics reported to this YEAR BOOK by each of the institutions of higher learning for the fall of 1948, or for the latest available period, are recorded in the table entitled *Universities and Colleges in the United States and Canada* on pages 594-624.

UNRRA. While shipments continued during 1948, the United Nations Relief and Rehabilitation Administration (UNRRA) was occupied chiefly in arranging its liquidation. Created on Nov. 9, 1943, to aid the victims of war in liberated areas, and beginning operations immediately on the cessation of hostilities, the Administration devoted approximately \$3,800 million of resources to providing to the governments of liberated countries for the distribution by them to their nationals not only relief supplies in the form of food, clothing, and medicine, but also rehabilitation supplies and services designed to restore transport, light, water, power, and other essential services; and to the repatriation, tracing, and care of persons found in any areas under control of the UN who by reason of war were displaced from their homes. Supplies UNRRA sent to countries lacking adequate foreign exchange were as listed in the accompanying table.

Countries aided	Estimated Value of Program*	Estimated Gross Long Tons
Albania	\$ 26,250,900	180,048
Austria	135,513,200	1,114,451
Byelorussian S.S.R.	60,820,000	141,858
China	517,846,700	2,360,915
Czechoslovakia	261,837,400	1,619,627
Dutch East Indies	3,900,400	35,122
Ethiopia	584,800	5,623
Finland	2,441,200	1,623
Greece	347,162,000	2,830,138
Hungary	4,886,500	19,127
Italy	418,222,100	10,225,450
Korea	943,900	8,424
Philippines	9,880,200	47,160
Poland	477,927,000	2,241,889
San Marino	30,000	280
Ukrainian S.S.R.	188,199,300	467,049
Yugoslavia	415,642,000	2,693,796

* Equivalent in U.S. dollars. For conversion rates used see final financial report, (Ninth Financial Report of UNRRA).

More than 7,200,000 persons had been repatriated by 30 June 1947 when the displaced persons operation was turned over to the Preparatory Commission of the International Refugee Organization.

The task of liquidating the numerous UNRRA offices, begun in July, 1947, was completed in 1948 with the closure of the Southwest Pacific Area Office in Sydney at the end of June and the European Regional Office in London at the end of September. On the latter date, an Administrator for Liquidation, Harry E. Howell, Controller since 1946, was appointed at Headquarters in Washington and the Director General, Lowell W. Rooks, left the Administration. Like his predecessors, Herbert H. Lehman, and the late Fiorello H. LaGuardia, and his successor, Harry E. Howell, Rooks was a
(continued on page 624)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
American Inst. for Foreign Trade, Phoenix	Private	1946	Barton K. Yount	278C	265	3,850	\$ 424,630	0	\$ 500,000		
Arizona State Coll., Flagstaff	State	1889	L. A. Eastburn	638C	323	32,280	834,085	0	1,250,052		
Arizona State Coll., Tempe	State	1885	Grady Gamme	3,658C	1,628	2,146,489	2,146,489	0	8,597,206		
Gila Junior Coll. of Graham County, Thatcher	Co. and State	1888	William H. Harless	21	168C	6,170	159,359	0	227,500		
Phoenix Junior Coll., Phoenix	District	1920	E. W. Montgomery	369	0	18,776	456,246	0	1,200,000		
Univ. of Arizona, Tucson	State	1885	J. Byron McCormick	5,087C	2,460	220,000	5,162,134	198,367	7,045,258		
Arkansas											
A., M. & Normal Coll., Pine Bluff [M]	State	1873	Lawrence A. Davis	...	357	0	786,483	0	1,445,328		
Arkansas A. & M. Coll., Monticello	State	1909	William E. Morgan	685C	249	17,000			300,000		
Arkansas Baptist Coll., Little Rock [M]	Baptist	1884	Tandy W. Cogges	180C	45	3,500	117,966	5,000	481,377		
Arkansas Coll., Batesville	Presbyterian	1872	John D. Spragins	288C	108	20,000	137,917	188,917	1,012,600		
Arkansas Polytechnic Coll., Russellville [J]	State	1909	J. W. Hul	1,160C	588	0	752,900	0	3,554,993		
Arkansas State Coll., State College	State	1910	N. J. Edens	1,372C	629	0	24,313	877,977	0	1,824,207	
Arkansas State Univ., Conway	State	1907	Nolen M. Irby	1,435C	585	0	1,123,898	800,000	350,000		
Central Coll., North Little Rock	Baptist	1882	M. M. Prine	113C	27	7,000	49,675	429,086	805,070		
Coll. of the Ozarks, Clarksville	Presbyterian	1890	W. Mayn Hurte	946C	550	0	25,000	9,450	678,000		
Dunbar Junior Coll., Little Rock [M]	Municipal	1928	J. W. R. Ray	128C	581	0	26,344	1,000,000	1,000,000		
Fort Smith Junior Coll., Fort Smith	Municipal	1924	George R. Benson	602C	232	0	20,700	648,176	1,062,300		
Harding Coll., Searcy	State	1924	D. D. Benson	577C	253	0	20,700	222,113	1,414,738		
Henderson State Univ., Arkadelphia	State	1884	Matth Locke Ellis	771C	182	0	53,000	1,491,121	1,000,000		
Junior Agric. Coll. of Central Arkansas, Beebe	Methodist	1892	A. Loyd Collins	...	80	...	...	2,000,000	1,500,000		
Little Rock Junior Coll., Little Rock	Private	1919	John E. Brown, Jr.	350C	151	11,000	300,000	2,000,000	1,000,000		
Little Rock Junior Coll., Little Rock	Private	1927	J. A. Larson	652C	242	0	19,000	1,500,000	1,000,000		
Oakland Coll., Arkadelphia	Baptist	1886	James R. Grant	769C	259	0	26,000	522,000	985,000		
Phileander Smith Coll., Little Rock [M]	Methodist	1868	M. L. Harris	523C	128	0	25,021	225,000	...		
St. John's Home Missions Seminary, Little Rock	Catholic	1911	James E. O'Connell	...	43	...	...	40,000	316,368		
Shorter Coll., North Little Rock	A. M. E.	1886	Robert H. Alexander	160C	24	0	90,000	100,000	2,300,000		
Southern Baptist Coll., Walnut Ridge [J]	Baptist	1941	H. E. Williams	372C	149	0	13,988	483,242	1,018,255		
State A. & M. Coll., Magnolia [J]	State	1910	Charles S. Wilkins	520C	136	0	251,821	132,607	9,029,564		
Univ. of Arkansas, Fayetteville	State	1871	Lewis Webster Jones	4,790C	2,782	189					
California											
Antelope Valley Junior Coll., Lancaster	Municipal	1929	Walter Dingus	129C	32	10,243	300,000	0	1,000,000		
Armstrong Coll., Berkeley	Private	1918	J. Evan Armstrong	850C	534	6	10,671	0	300,000		
Bakersfield Coll., Bakersfield [J]	District	1913	Grace V. Bird	1,018C	236	0	13,106	0	197,318		
Berkeley Baptist Divinity School	Baptist	1904	Sandford Fleming	90C	31	14	21,507	90,268	453,712		
Brawley Junior Coll., Brawley	District	1924	P. E. Palmer	...	...	...	...	...	...
California Coll. of Arts and Crafts, Oakland	Private	1907	Spencer Maaky	715C	421	6,000	8,144,883	21,683,506	19,500,000		
California Inst. of Technology, Pasadena	Private	1891	L. A. DuBridge	753M	730	71,000	170,000	...	1,600,000		
Cal. State Polytechnic Coll., San Dimas	State	1938	Julian A. McPhee	21	408M	3,710	17,099,288	0	3,959,084		
Cal. State Polytechnic Coll., San Luis Obispo	State	1901	Julian A. McPhee	2,575M	1,532	0	17,380	80,000	250,000		
Central Junior Coll., El Centro	State	1922	E. W. Waterman	177C	29	3	37,000	148,000	1,025,000		
Chaffey Coll., Ontario [J]	District	1883	Daniel B. Milliken	918C	300	84	200,000	0	1,300,119		
Chapman Coll., Los Angeles	Disc. Christ.	1861	George N. Reeves	291C	112	40	40,000	925,000	1,893,630		
Chico State Coll., Chico	State	1889	Aymen Jay Hamilton	1,110C	524	70,000	188,000	...	1,600,000		
Citrus Junior Coll., Azusa	District	1915	Glenn G. Yaminan	...	31	...	...	...	813,219		
Claremont Graduate School, Claremont	Private	1925	Fredrick Hard	...	451	0	15,415	536,500	573,309		
Claremont W. Pierce Junior Coll., Canoga Park [J]	Municipal	1937	Edwin B. Angier	236C	236	45	20,000	800,851	394,000		
Coll. of Marin, Kentfield	State	1909	Ward H. Austin	598C	201	8	7,795	468,739	1,824,986		
Coll. of Medical Evangelists, Long Linda	S. D. A.	1909	George T. Harding	270C	173	...	...	684,114	2,426,573		
Coll. of Osteopathic Physicians & Surgeons, L. A.	Private	1895	W. Ballewne Henley	203C	173	...	...	...	...
Coll. of Physicians & Surgeons, San Francisco	Private	1895	Ernest G. Sloman	323C	173	...	...	...	...
Coll. of the Holy Names, Oakland	Private	1881	Robert E. Burnis	924C	335	106	1,393,361	0	1,824,986		
Compton Coll., Compton [J]	Methodist	1890	O. S. Thompson	761C	...	0	1,502,055	2,426,573	...		
Dominican Coll. of San Rafael, San Rafael	Catholic	1880	Sister Mary Patrick	...	4	4	36,898	...	...
East Los Angeles Junior Coll., Los Angeles	District	1945	Rosco G. Murdoch	1,165C	367	0	1,211,950	1,400,000	600,000		
El Camino Junior Coll., Lawndale	State	1947	W. T. B. Joyal	2,027C	50	65,000	1,045,503	0	2,653,095		
Fresno State Coll., Fresno	State	1911	A. T. B. Joyal	1,845C	961	...	707,866	...	1,000,000		
Fullerton Junior Coll., Fullerton	District	1913	W. T. B. Joyal	1,845C	961	...	707,866	...	...
George Pepperdine Coll., Los Angeles	Private	1937	Hugh M. Thor	1,500C	748	...	26,520	895,897	...		

Institution and Address	Control or Affiliation	Year Founded	Faculty	Chief Executive	Fall enrollment, 1948	Full-time Undergraduates	Graduate Students	1947-1948			
								Volumes in Libraries	Total Income	Endowment	Value of Plant
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Glennville Coll., Glendale [J].....	District	1927	Elmer T. Worthy.....	96	1,534C	592	0	13,500	\$ 500,000	\$	\$ 295,500
Golden Gate Coll., San Francisco.....	Y. M. C. A.	1901	Negel T. Miner.....	120	1,711C	2,145	30	8,500	0	0	0
Griffith Technical Coll., Del Paso Heights [J].....	Private	1882	Wynn E. Olson.....	32	1,453C	99	6	13,000	250,000	0	1,000,000
Hartman Coll., Salem.....	State	1920	John B. Lemcoe.....	38	1,490C	125	11	24,518	200,000	3,200,000	2,000,000
Humboldt State Coll., Eureka.....	State	1914	Arthur S. Gist.....	46	1,162W	19	0	16,000	435,000	0	1,100,000
Imperial Valley Coll., Los Angeles.....	Catholic	1910	Sister M. Eichelaria.....	118	1,627C	318	0	21,744	927,000	0	1,100,000
John Muir Nat. Coll., Pasadena.....	District	1946	A. M. Turrell.....	51	1,687C	276	0	15,000	175,000	0	925,000
La Sierra Coll., Azusa.....	Adventist	1922	Godfrey F. Anderson.....	61	1,832C	75	0	16,408	221,882	57,429	711,000
La Verne Coll., La Verne.....	District	1925	G. A. Collier.....	54	1,832C	75	0	41,324	1,787,088	.....	1,547,715
Long Beach City Coll., Long Beach [J].....	City	1931	Harold D. Folsom.....	21	1,479C	1,780	0	60,000	.....	.....	3,241,785
Los Angeles Bible Coll., Los Angeles [J].....	Municipal	1913	George E. Watson.....	295	1,151C	2,281	.....	7,200	117,322	.....	300,000
Los Angeles School of Optometry, Los Angeles.....	Private	1929	Edgar W. Jacobsen.....	353	1,151C	2,281	.....	48,814	3,000,000	2,600,000	3,000,000
Loyola Univ. of Los Angeles, Los Angeles.....	Catholic	1914	E. J. McManis.....	98	1,111W	645	0	4,720	32,617	0	367,823
Marquette Univ., San Francisco.....	District	1913	Walter H. Brown.....	41	1,111W	645	0	17,000	356,250	.....	637,150
Marquette Univ., Menlo Park.....	District	1926	William E. Kraft.....	30	1,321M	98	0	104,386	1,371,498	2,452,365	3,727,588
Metropolitan Coll., Modesto.....	Private	1852	Henry T. White, Jr.....	87	1,083C	272	84	23,202	612,700	0	1,200,000
Monterey Peninsula Coll., Monterey [J].....	Private	1921	Calvin G. Flint.....	24	1,319C	98	0	20,000	398,212	0	1,500,000
Mount St. Mary's Coll., Los Angeles.....	Catholic	1925	Sister M. de Lourdes.....	44	1,319C	98	0	8,000	1,501,364	1,501,364	2,833,325
Mount San Antonio Coll., Pomona [J].....	District	1942	H. M. McPherson.....	48	1,319C	98	0	5,600	774,263	1,400	1,000,000
Napa Junior Coll., Napa.....	District	1887	Arthur G. Coons.....	91	1,249C	576	95	88,168	.....	.....	1,000,000
Northeastern Coll., Los Angeles.....	Presbyterian	1934	Kenneth P. Bailey.....	46	1,249C	576	95	37,769	1,277,860	.....	1,203,237
Oceanide-Carlsbad Junior Coll., Oceanside.....	District	1866	Ronald Bridges.....	73	823C	255	7	2,454	80,000	.....	75,000
Pacific Union Coll., Berkeley.....	Interdenom.	1882	Percy W. Christian.....	18	1,911C	44	0	89,094	2,140,948	.....	3,858,239
Pasadena Coll., Vista [J].....	State	1946	Daniel C. McNaughton.....	260	5,275C	1,097	0	33,032	327,000	.....	900,000
Pasadena City Coll., Pasadena [J].....	District	1924	John W. Harbeson.....	35	613C	208	25	5,000	250,000	.....	250,000
Pasadena Coll., Pasadena.....	Nazarene	1902	W. T. Purkiser.....	30	416C	104	0	116,000	1,521,477	4,747,702	4,138,732
Pacific Coll., Auburn [J].....	District	1936	Harold M. Weaver.....	30	613C	367	0	8,000	187,000	0	1,200,000
Pacific Coll., Claremont.....	Private	1887	E. Wilson Lyon.....	100	1,161C	327	0	9,045	80,000	0	1,200,000
Pacific Coll., Porterville.....	District	1927	B. E. Jamison.....	32	1,161C	327	0	19,500	465,925	0	1,200,000
Pacific Coll., Reedley [J].....	District	1926	J. O. McLaughlin.....	43	435C	98	18	30,000	.....	.....	1,849,925
Pacific Coll., Riverside [J].....	District	1916	Arthur G. Paul.....	51	842C	228	0	38,000	10,000	0	600,000
Pacific Coll., Sacramento [J].....	District	1916	Nicholas Ricciardi.....	104	2,388C	572	0	25,000	790,588	0	2,000,000
Pacific Coll., Sacramento [J].....	Catholic	1939	Wm. P. Barr.....	20	888M	378	0	112,764	1,316,251	.....	3,065,963
St. John's Seminary, Camarillo.....	Catholic	1863	Brother Austin.....	54	888M	378	0	57,303	1,161,612	.....	1,750,586
St. Mary's Coll., St. Mary's College.....	Catholic	1919	Frank A. Bauman.....	15	75C	832	0	37,000	2,004,811	1,516,085	2,776,035
San Bernardino Junior Coll., Hollister.....	District	1926	John L. Lounsbury.....	77	1,267C	362	0	102,136	.....	.....	0
San Bernardino Valley Union J. C., San Bernardino.....	State	1914	John Aseltine.....	122	1,267C	362	0	14,137	1,278,294	.....	2,594,989
San Diego State Coll., San Diego.....	Local	1897	Walter R. Hepler.....	280	3,968C	1,762	108	4,000	35,135	0	1,500,000
San Francisco Coll., San Francisco.....	State	1897	Frederick Hard.....	49	3,968C	1,762	0	13,224	327,394	500,000	1,500,000
San Francisco Coll., San Francisco.....	Catholic	1930	Frederick Hard.....	31	3,968C	1,762	0	13,000	565,631	.....	1,500,000
San Francisco Junior Coll., San Francisco.....	Catholic	1930	Frederick Hard.....	31	3,968C	1,762	0	83,266	432,023	1,420,561	2,033,676
San Francisco Junior Coll., San Francisco.....	Catholic	1930	Frederick Hard.....	31	3,968C	1,762	0	83,266	432,023	1,420,561	2,033,676
San Francisco Theological Seminary, San Anselmo.....	Presbyterian	1871	Jesse Hays Baird.....	198	3,183C	1,231	213	57,303	1,161,612	.....	1,750,586
San Jose State Coll., San Jose.....	State	1871	T. W. MacQuarrie.....	348	6,927C	2,740	119	102,136	.....	.....	0
San Jose State Coll., San Jose.....	State	1871	Lawrence Griffin.....	15	1,460C	356	0	16,200	35,135	0	1,500,000
San Jose State Coll., San Jose.....	District	1912	Charles S. Morris.....	86	735C	187	0	4,000	327,394	0	1,500,000
San Mateo Junior Coll., San Mateo.....	District	1915	Herbert Owen Russell.....	39	735C	187	0	13,224	327,394	0	1,500,000
Santa Ana Coll., Santa Ana [J].....	Local	1915	W. J. Kircher.....	26	68C	27	0	13,000	565,631	.....	1,500,000
Santa Barbara Junior Coll., Santa Barbara.....	Local	1920	Harry E. Tyler.....	28	1,800C	530	0	83,266	432,023	1,420,561	2,033,676
Santa Maria Junior Coll., Santa Maria.....	District	1920	Elmer C. Sandmeyer.....	55	1,650C	362	0	83,266	432,023	1,420,561	2,033,676
Santa Monica City Coll., Santa Monica [J].....	Municipal	1920	Elmer C. Sandmeyer.....	55	1,650C	362	0	83,266	432,023	1,420,561	2,033,676
Santa Rosa Junior Coll., Santa Rosa.....	District	1918	Floyd P. Bailey.....	49	1,083C	362	0	83,266	432,023	1,420,561	2,033,676
Seattle Coll., Claremont.....	Private	1918	Frederick Hard.....	31	3,968C	1,762	0	83,266	432,023	1,420,561	2,033,676

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Willamette State Coll., Willamette, Ore.	State.....	1889	I. Eugene Smith.....	43	205C	52	0	12,000	\$ 287,198	\$ 0	\$ 1,406,280
Yale Univ., New Haven, Conn.	Private.....	1701	Charles Seymour.....	1,387	5,567M	4,018	3,119	3,770,813	14,048,813	124,673,459	.....
Delaware State Coll., Dover, Del.*	State.....	1891	Howard D. Gregg.....	30	380C	118	141	115,552	2,894,007	5,767,630	6,819,001
Univ. of Delaware, Newark, Del.	State.....	1883	William S. Carlson.....	203	2,292C	905	0	5,000	154,000	121,000	328,000
Wesley Junior Coll., Dover, Del.	Methodist.....	1873	O. A. Bartley.....	21	145C	83	0	22,080	.....	.....	.....
District of Columbia											
American Univ., Washington.....	Methodist.....	1933	Paul F. Douglas.....	132	1,731C	1,183	425	118,956	1,961,722	829,707	3,845,000
Catholic Univ. of America, Washington.....	Catholic.....	1867	Patrick J. McCormick.....	470	2,468C	2,064	1,660	340,244	1,978,862	4,957,710	4,564,967
Cherry Chase Junior Coll., Washington.....	Private.....	1903	Frances R. Brown.....	167	1,877W	0	0	3,800	181,000	0	288,000
Dumbarton Coll. of Holy Cross, Washington.....	Catholic.....	1835	Sister M. Freireick.....	37	204W	0	0	22,080	.....	.....	1,000,022
Gallaudet Coll., Washington.....	Federal.....	1864	Leonard C. Eusead.....	604	2,828C	5	8	394,142	6,000,000	3,500,000	16,000,000
Georgetown Univ., Washington.....	Catholic.....	1789	Lawrence C. Gorman.....	604	2,828C	1,693	1,363	185,000	5,584,000	2,785,000	12,000,000
Georgetown Visitation Junior Coll., Washington.....	Catholic.....	1867	Clotilde S. Shea.....	803	6,096C	3,526	3,471	260,108	1,551,073	5,000	1,200,000
Georgetown Univ., Washington.....	Private.....	1829	Clayton H. Marvin.....	470	2,188W	59	0	27,751	315,515	0	650,000
Howard Univ., Washington.....	Private.....	1873	William F. Johnson.....	49	6,444C	1	0	40,326	337,227	0	.....
Marquette Univ., Washington.....	Catholic.....	1870	Marjorie F. Wheeler.....	42	562C	32	0	10,000	.....	.....	114,188
Miner Univ., Washington.....	Private.....	1851	Eugene A. Clark.....	62	217C	131	18	723C	183,961	516,343	3,312,683
National Univ., Washington.....	Private.....	1860	George P. Bass.....	17	1,944	446	34	500,000	117,173	0	.....
School of Advanced Studies, Washington.....	Y. M. C. A.....	1909	Leroy J. Mass.....	26	723C	0	0	500,000	412,279	0	.....
St. Elizabeth's Coll., Washington.....	Catholic.....	1897	Sister C. Donohue.....	61	477W	883	725C	500,000	.....	.....	.....
U. S. Dep't. of Agriculture Grad. Sch., Washington.....	Federal.....	1921	Lewis H. Rohrbaugh.....	150	2,089C	78	0	16,000	1,890,351	.....	1,503,869
U. S. Coll. of Law, Washington.....	Private.....	1896	John L. Shepley.....	14	128C	208	0	35,000	112,063	0	.....
Washington Missionary Coll., Washington.....	Adventist.....	1904	W. H. Shephard.....	58	613C	0	0	.....	.....	.....	.....
Washington School of Psychiatry, Washington.....	Private.....	1936	David McK. Riich.....	40	[G]C	94	363C	.....	.....	.....	.....
Florida											
Barry Coll. for Women, Miami.....	Catholic.....	1940	Mother M. Gerald.....	32	W	3	0	3,000	120,000	.....	200,000
Clements Junior Coll., Ormond Beach.....	Private.....	1940	Maud van Woy.....	20	100W	36	0	20,069	2,198,730	.....	5,000,000
Edward Waters Coll., Jacksonville [*].....	A. M. E.....	1942	Amos J. White.....	25	C	510	2	63,000	1,248,475	2,600,000	3,500,000
Florida A. & M. Coll., Tallahassee [*].....	State.....	1887	William H. Gray, Jr.....	238	1,609C	198	0	119,801	5,377,277	206,000	8,045,510
Florida Normal & Indust. Coll., St. Augustine [*].....	Private.....	1892	John L. Tilley.....	32	C	198	0	55,720	1,182,188	1,292,128	881,167
Florida Southern Coll., Lakeland.....	Methodist.....	1885	Ludd M. Suiley.....	115	1,936C	890	0	6,619	184,305	0	100,000
Florida State Univ., Tallahassee.....	State.....	1857	Douk S. Campbell.....	390	4,721C	1,172	0	2,000	94,500	0	500,000
Jacksonville Junior Coll., Jacksonville.....	Private.....	1934	Garth H. Akridge.....	32	227C	128	0	6,000	.....	.....	.....
John B. Stetson Univ., De Land.....	Private.....	1883	J. Ollie Edmunds.....	129	1,969C	1,107	18	55,720	1,182,188	1,292,128	881,167
Orlando Junior Coll., Orlando.....	Baptist.....	1941	Addison L. Williams.....	13	181C	0	0	2,000	42,000	0	100,000
Palm Beach Junior Coll., West Palm Beach.....	District.....	1933	John I. Leonard.....	20	282C	40	0	6,000	94,500	0	1,000,000
Riddle Inter-American Coll., Coral Gables [J].....	Private.....	1946	A. E. Boudreau.....	21	C	215	.....	80,000(6)	935,544(6)	.....	500,000
Rollins Coll., Winter Park.....	Private.....	1885	Hamilton Holt.....	21	C	105	.....	10,000	.....	.....	.....
St. Petersburg Junior Coll., St. Petersburg.....	Co. and St.....	1927	Roland A. Wakefield.....	29	395C	0	0	.....	.....	.....	.....
Thomas Alva Edison Coll., Fort Meyers [J].....	(Ceased operation)	September 1948	J. Hillis Miller.....	866	9,199C	5,804	936	340,000	11,899,465	322,933	19,488,301
Univ. of Florida, Gainesville.....	State.....	1853	Bowman F. Ashe.....	460	8,540C	4,947	302	157,556	5,208,456	2,500,768	11,235,251
Univ. of Miami, Coral Gables.....	Private.....	1925	E. C. Nance.....	.....	1,062C	649	0	35,000	3,19,328	365,000	279,239
Univ. of Tampa, Tampa.....	Private.....	1931	.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgia											
Abraham Baldwin Agricultural Coll., Tifton [J].....	State.....	1933	G. P. Donaldson.....	30	400C	116	.....	30,000	359,520	0	651,960
Agnes Scott Coll., Decatur.....	Private.....	1889	James Ross McCain.....	67	540W	7	0	14,216	535,776	2,371,164	3,049,526
Albany State Coll., Albany [*].....	State.....	1903	Aaron Brown.....	54	476C	47	0	54,000	281,862	0	654,627
Andrew Coll., Cuthbert [J].....	Methodist.....	1854	S. C. Ollif.....	12	90W	0	0	5,200	74,278	198,768	224,340
Armstrong Junior Coll., Savannah.....	Methodist.....	1935	Foreman M. Hawes.....	293	500C	131	0	7,000	201,744	20,367	1,200,700
Atlanta Div. School, Atlanta.....	State.....	1913	George M. Sparks.....	126	3,334C	2,216	0	22,751	780,876	0	2,500,000
Atlanta Law School, Atlanta.....	Private.....	1888	Hamilton Douglas.....	.....	[G]C	188	.....	.....	.....	.....	.....
Atlanta Univ., Sycamore, Atlanta [*].....	Private.....	1867	Rufus E. Clement.....	60	586C	108	242C	99,292	493,144	5,068,518	1,935,312
Berry Coll., Mount Berry.....	Private.....	1926	James Armour Lindsey.....	50	586C	30	0	30,000	300,000	2,500,000	8,000,000

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Bessie Tift Coll., Forsyth.	Presb.	1849	W. Fred Gunn.	26	2:37W	1	0	18,000	\$ 195,611	\$ 480,166	\$ 500,059
Brenau Coll., Gainesville.	Private	1878	Josiah Crudup.	34	27. W	59	4	22,838	426,249	650,000	670,276
Columbia Theological Seminary, Decatur.	Presb.	1828	James McDowell.	9	97M	59	4	34,426	82,117	890,848	456,289
Emory Univ., Emory University.	Meth.	1836	Goodrich Cook White.	588	2, 16:1C	1,950	1,572	312,000	6,576,276	18,039,986	13,379,986
Fort Valley State Coll., Fort Valley [8].	State	1895	C. Y. Troup.	51	6:16C	141	0	13,177	316,038	38,529	982,569
Georgia Inst. of Technology, Atlanta.	Municipal	1879	H. H. Jenkins.	35	1:45M	68	85	4,261	310,000	0	500,000
Georgia Southern Coll., Americus [3].	State	1885	Blake R. Van Leer.	338	5,377M	3,246	183	93,000	0	0	18,309,000
Georgia State Coll., Industrial College [3].	State	1926	Henry King Stanford.	15	3:11C	37	0	14,299	357,483	0	470,439
Georgia State Coll., Valdosta.	State	1880	James A. Colston.	71	1:10C	550	0	15,131	0	0	969,799
Georgia State Coll. for Women, Milledgeville.	State	1889	Guy H. Wells.	43	3:11W	4	0	23,675	170,799	0	3,500,000
Georgia State Coll., Collegeboro.	State	1908	J. Ralph Thaxton (a).	101	1:01C	2	0	44,882	280,000	0	878,020
Georgia Tech. Coll., Collegeboro.	State	1908	Zach S. Henderson.	20	7:2C	239	0	30,000	480,000	0	845,000
Gordon Military Coll., Barnesville [3].	State	1929	J. E. Guillebeau.	60	1:2C	26	0	6,250	49,141	0	450,000
Junior Coll. Center, Atlanta.	County	1935	W. M. Goldsmith.	15	3:07C	51	0	14,000	66,034	0	657,230
LeGrange Coll., LaGrange.	Meth.	1925	Eric W. Hardy.	23	1:44W	16	0	14,430	164,734	37,703	946,535
Mercer Univ., Macon.	Presb.	1881	Wright G. Henry, Jr.	76	1:23C	647	12	132,000	2,855,921	1,705,190	1,705,190
Morris Brown Coll., Atlanta [3].	Meth.	1881	Spright Dorell.	13	7:02C	287	0	13,456	470,372	123,741	123,741
Norman Junior Coll., Norman Park.	Baptist.	1900	W. A. Fountain, Jr.	46	7:02C	31	0	3,055	108,433	140,000	4,000,291
North Georgia Coll., Dahlonega [3].	State	1873	W. C. Rogers.	43	7:02C	121	0	16,417	147,983	566,915	1,013,000
Oglethorpe Univ., Oglethorpe University.	Private	1885	Philip Wetner.	25	3:30C	184	0	25,000	215,690	97,196	97,196
Paine Coll., Augusta [3].	Meth.	1862	E. C. Peters.	22	3:05C	107	0	20,892	114,689	213,787	213,787
Piedmont Coll., Demorest.	Meth.	1883	J. R. Van Cleave.	13	1:24C	12	0	8,000	78,274	121,424	121,424
Rainhardt College, Waleska [3].	Presb.	1873	C. H. Burgess, Jr.	31	2:13W	1	0	25,000	227,776	584,000	1,000,000
Shorter Coll., Rome.	Presb.	1903	R. C. Boyd Burt.	32	2:00C	151	0	8,500	144,270	0	396,995
Southern Coll. of Pharmacy, Atlanta.	State	1927	William S. Sasser Smith.	32	5:26C	3718	377	235,086	1,174,447	1,174,447	10,074,904
South Georgia Coll., College [3].	State	1925	Harmon W. Caldwell.	430	6:50AC	219	0	8,107	6,070,702	0	396,995
Univ. of Georgia, Athens.	State	1828	Raymond R. Pety.	73	290C(c)	26	0	37,699	710,049	1,227,437	2,787,314
Univ. of Georgia School of Medicine, Augusta.	State	1836	Silas Johnson.	26	5:37C	219	0	10,660	852,280	0	707,144
Wesleyan Coll., Macon.	State	1933	I. S. Ingram.	10	5:00C	142	0	5,000	0	0	0
West Georgia Coll., Carrollton [3].	State	1933	Joseph B. Kilbride.	14	1:00C	155	0	0	0	0	0
Woodrow Wilson Coll. of Law, Atlanta.	State	1886	Walter Downs.	14	0	23	0	0	0	0	0
Young Harris Coll., Young Harris [3].	Meth.	1907	Gregg M. Sinclair.	216	3,642C	1,050	284	189,396	3,677,805	74,240	5,425,954
Univ. of Hawaii, Honolulu.	Territorial.	1929	Eugene B. Chaffee.	50	5:58C	180	0	12,000	357,255	0	628,457
Boise Junior Coll., Boise.	Presb.	1891	Leila A. Williams (a).	35	4:98C	214	0	25,000	805,000	555,000	600,000
Coll. of Idaho, Caldwell.	Private	1946	Philip S. Van Wyk.	46	4:14C	399	0	6,720	240,000	0	0
Farragut Coll. & Technical Institute, Farragut.	State	1893	G. O. Todd.	45	4:62C	177	0	25,000	263,077	0	1,500,000
Northern Idaho Junior Coll., Coeur d'Alene.	State	1913	G. O. Kildow.	21	1:65C	75	0	3,500	134,000	0	300,000
North Idaho Junior Coll., Nampa.	Nazarene	1913	Lewis T. Corlett.	32	5:54C	167	8	15,000	865,000	0	800,000
Ricks Coll., Rexburg [3].	L.D.S.	1888	John L. Clarke.	34	3:36C	71	0	15,000	197,788	0	174,233
Southern Idaho Coll. of Education, Albion.	State	1893	R. H. Snyder.	33	2:10C	93	126	25,000	1,800,000	4,962,572	1,800,000
Univ. of Idaho, Moscow.	State	1889	J. E. Buchanan.	234	3,546C	1,718	0	122,593	4,094,327	10,891,495	500,000
American Univ., Chicago.	Private	1929	Lewis M. Chubbuck.	45	5:55M	470	0	5,000	0	0	0
American Academy of Art, Chicago.	Private	1923	Frank H. Young.	675	0	675	0	0	0	0	0
American Conservatory of Music, Chicago.	Private	1923	John R. Hatfield.	347	0	347	0	0	0	0	0
American Coll. & Theol. Seminary, Rock Island.	Lutheran	1860	C. J. Bergendoff.	70	1:315C	486	0	96,000	800,650	1,480,000	2,333,382
Augusta Coll., Augusta.	Ad. Chris.	1893	T. P. Stephens.	38	4:02C	199	0	32,000	275,327	78,777	443,819
Belleville Coll. of the Sacred Heart, Lake Forest.	Catholic.	1904	Mother M. Reilly.	43	3:15W	68	0	20,000	36,200	0	1,842,600
Belleville Township Junior Coll., Belleville.	Local	1946	Hal O. Hall.	30	2:21C	67	0	9,136	270,992	0	777,573
Bellevue Biblical Seminary, Chicago.	Ch. Brethren.	1887	Rufus D. Bowman.	29	3:44C	7	0	15,000	1,515,980	2,447,603	2,282,073
Blackburn Coll., Carlinville [3].	Presbyterian.	1897	Robert W. McEwen.	180	3:628C	2,114	63	66,219	2,008,569	722,022	963,890
Brigham Univ., Peoria.	Private	1870	Erland Nelson.	42	6:00C	236	0	38,073	679,396	0	0
Chicago Coll. of Art, Chicago.	U. Lutheran.	1902	Ruth Van S. Ford.	33	4:23C	202	0	100	0	0	0
Chicago Academy of Fine Arts, Chicago.	Private	1938	C. L. MacCallum.	38	0	0	0	0	0	0	0
Chicago City Jr. Coll., Austin Branch, Chicago.	Municipal	1938	M. L. Fitzgerald.	30	0	0	0	0	0	0	0
Chicago City Jr. Coll., Englewood Branch, Chicago.	Municipal	1934	H. L. Klein (a).	61	0	60	0	0	0	0	0
Chicago City Jr. Coll., Herz Branch, Chicago.	Municipal	1934	H. L. Klein (a).	61	0	60	0	0	0	0	0
Chicago City Jr. Coll., Schurz Branch, Chicago.	Municipal	1938	Robert C. Keenan.	31	0	0	0	0	0	0	0

Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Full-time Undergraduates	Graduate Students	1947-1948				Value of Plant
							Volumes in Libraries	Total Income	Endowment		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Chicago City Jr. Coll., Wilson Branch, Chicago.....	Municipal	1934	O. S. Williams.....	100	3,373C	387	0	66,000	\$	0	\$
Chicago City Jr. Coll., Wright Branch, Chicago.....	Municipal	1934	Leland L. Medsker.....	135	404C	034	0	1,500	.....	0	600,000
Chicago Coll. of Osteopathy, Chicago.....	Private	1937	Reuben Seid.....	20	404C	285	0	1,500	.....	0	500,000
Chicago Coll. of Optometry, Chicago.....	Private	1900	Richard N. MacBain.....	54	189C	143	0	1,750	147,545	0	284,168
Chicago Conservatory, Chicago.....	Private	1857	Edgar Nelson.....	79	485C	908	15	6,000	.....	.....	385,000
Chicago Evangelical Inst., Chicago.....	Private	1910	Harry E. Jessop.....	25	227C	55	.....	.....	144,347	.....	400,761
Chicago-Kant Coll. of Law, Chicago.....	Private	1890	Webster H. Burke.....	7	.....	211	71	26,000	63,000	496,000	385,000
Chicago Lutheran Theological Seminary, Maywood.....	Lutheran	1912	Armin G. Weng.....	238	30M	15	.....	13,000	505,669	0	5,000,000
Chicago Medical School, Chicago.....	Private	1867	John J. Sheinin.....	238	235C	135	44	8,322	.....	0	175,000
Chicago Musical Coll., Chicago.....	Private	1867	Rudolph Ganz.....	58	518C	211	0	08,300	338,904	0	2,000,000
Chicago Technical Coll., Chicago.....	Municipal	1909	Raymond M. Cook.....	44	738C	1,065	0	400	.....	0	2,000,000
Chicago Theological Seminary, Chicago.....	Private	1855	Charles W. Mowry.....	41	1,190M	1,065	84C	56,188	3,000,000	16,000	1,401,250
Coll. of St. Francis, Joliet.....	Catholic	1920	A. C. McGiffert, Jr.....	52	301W	3	0	35,000	283,495	0	1,300,000
Columbia Coll., Chicago.....	Private	1890	Norman Alexandroff.....	28	406C	211	20	9,136	.....	.....	335,000
Concordia Tchr. Coll., River Forest.....	Lutheran	1894	Arthur William Klineck.....	28	401C	40	0	25,100	.....	0	2,300,000
Cosmopolitan School of Music, Chicago.....	Private	1846	G. Chr. Barth.....	14	296M	136	0	12,840	.....	0	2,779,410
De Paul Univ., Chicago.....	Catholic	1898	Clarence Eklund.....	350	4,717C	2,584	816	82,471	3,000,000	0	1,228,448
Eastern Illinois State Coll., Charleston.....	State	1899	C. J. O'Malley.....	135	1,422C	569	0	66,000	237,979	0	344,101
Elmhurst Coll., Elmhurst.....	Presbyterian	1871	Robert G. Buzard.....	40	738C	221	0	43,500	305,249	0	250,000
Eureka Coll., Eureka.....	Presbyterian	1855	H. W. Dickinson.....	28	331C	153	0	28,000	.....	0	717,641
Evanston Collegiate Inst., Evanston [J].....	Methodist	1934	Burrus Dickinson.....	21	133C	83	0	4,000	195,791	0	600,000
Frances Shimer Coll., Mount Carroll [J].....	Methodist	1853	T. Ottmann Fring.....	25	237C	14	0	11,679	1,118,091	0	543,542
Garrett Biblical Inst., Evanston.....	Methodist	1890	Albin Carl Bro.....	32	334C	226	0	22,000	1,319,181	0	876,100
George Williams Coll., Chicago.....	Private	1829	H. C. Coffman.....	34	406C	235	0	36,692	2,000,000	0	3,219,307
Greenville Coll., Greenville.....	Private	1892	Henry J. Long.....	200	5,48C	2,155	183	110,000	1,469,522	0	300,000
Illinois Inst. of Technology, Chicago.....	Private	1857	Henry T. Heald.....	32	2,093C	525	87	92,127	1,400,000	0	1,375,000
Illinois State Normal Univ., Normal.....	State	1857	R. W. Fairchild.....	97	1,267C	498	13	45,077	.....	0	652,000
Institute of Design, Chicago.....	Private	1933	Merrill J. Holmes.....	40	386C	270	8	5,000	2,777,618	0	1,997,406
James Millikin Univ., Decatur.....	Presbyterian	1903	Serge Chermayeff.....	96	1,461C	698	0	40,000	1,880,165	0	2,275,253
John Marshall Law School, Chicago.....	Private	1899	J. Walter Malone.....	47	428C	693	0	12,350	.....	0	238,320
Joliet Junior Coll., Joliet.....	Private	1901	Edw. W. Lee.....	35	430C	90	0	17,019	3,790,070	0	4,100,000
Knox Coll., Galesburg.....	Presbyterian	1837	E. W. Rowley.....	73	833C	274	0	77,000	3,777,052	0	2,240,438
Lake Forest Coll., Lake Forest.....	Presbyterian	1857	K. D. McClelland (a).....	53	893C	321	0	58,900	169,312	0	1,000,000
La Salle-Peru-Oglesby Junior Coll., La Salle.....	District	1924	Ernest A. Johnson.....	28	258C	56	0	10,250	.....	0	2,042,361
Le Clero Coll., Belleville.....	Private	1938	F. H. Dolan.....	28	164W	1	0	6,000	.....	0	1,251,929
Lewis Coll. of Science & Technology, Lockport.....	Catholic	1895	Sister M. Leontine.....	20	96C	47	0	13,500	65,050	0	2,735,050
Lincoln Coll., Lincoln [J].....	Presbyterian	1870	Bernard J. Shel.....	33	430C	33	0	146,256	2,000,246	0	1,059,055
Loyola Univ., Chicago.....	Catholic	1865	Raymond N. Dooley.....	413	4,900C	2,447	0	19,000	.....	0	1,951,929
Lyons Township Junior Coll., La Grange.....	Municipal	1929	James T. Hussey.....	35	590C	2,625	0	19,000	.....	0	2,735,050
MacMurray Coll. for Women, Jacksonville.....	Methodist	1846	George S. Olsen.....	73	667W	48	0	1,122,242	.....	0	1,059,055
McDonnell Theological Seminary, Chicago.....	Presbyterian	1829	C. P. McClelland.....	23	136C	1	15	95,016	3,777,052	0	2,735,050
McKendree Coll., Lebanon.....	Methodist	1828	Robert Worth Frank.....	25	286C	146	0	18,700	108,454	0	1,000,000
Madisonville Coll., Wilmette [J].....	Catholic	1918	Carl C. Bracy.....	5	14W	0	0	6,187	41,703	0	600,000
Moline Community Coll., Moline [J].....	Local	1846	Mother Ignatia.....	28	168C	66	0	54,000	619,574	0	1,251,929
Monmouth Coll., Monmouth.....	U. Presb.	1853	Gerald W. Smith.....	66	890C	261	0	20,000	65,050	0	2,735,050
Monroe Coll. of Optometry, Chicago.....	Private	1937	Samuel D. Hauser.....	34	350W	324	0	6,400	6,000	0	2,735,050
Monticello Coll., Godfrey [J].....	Private	1835	John Ripley Young.....	17	369C	111	0	16,017	.....	0	2,735,050
Morgan Park Junior Coll., Chicago.....	Private	1924	Sanford Sellers, Jr.....	55	743C	113	0	29,308	.....	0	2,735,050
Morton Junior Coll., Cicero.....	Municipal	1924	Wm. P. MacLean.....	68	905W	7	0	38,480	187,698	0	2,735,050
Mundelein Coll., Chicago.....	Catholic	1930	Sister M. Josephine.....	45	866W	7	0	38,480	.....	0	2,735,050
National Coll. of Education, Evanston.....	Private	1886	Edna Dean Baker.....	45	866W	7	0	38,480	.....	0	2,735,050

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
North Central Coll., Naperville.....	Ev. U. Breth.....	1861	C. Harve Geiger.....	50	915C	3:30	0	33,279	\$ 531,496	\$ 1,380,000	
Northern Baptist Theological Seminary, Chicago.....	Baptist.....	1913	William W. Koller.....	18	218C	1:12	130	39,325	268,621	63,783	797,931
Northern Illinois Coll. of Optometry, Chicago.....	Private.....	1872	Charles B. Needles.....			1:01					
Northern Illinois State Univ., DeKalb.....	State.....	1878	Karl L. Adams.....	126	1,668C	5:11		69,068	1,113,805	0	2,973,958
North Park Coll., Chicago [U].....	Ev. M.C.....	1891	Algoth Olson.....	13	774C	1:5	0	19,488	402,408	319,245	1,022,477
Northwestern University, Evanston.....	Methodist.....	1851	Franklyn B. Snyder.....	1,426	10,858C	5:23	872	900,000	14,000,000	60,000,000	81,000,000
Olivet Nazarene Coll., Elmhurst.....	Nazarene.....	1907	Selden D. Kelley.....	54	841C	2:10	7	12,500		125,000	2,150,000
Pacific Union Coll., Lincolne.....	Private.....	1946	W. W. Grimm.....	2							
Pastorzi Evangelical Coll., Chicago.....	Private.....	1896	Herman H. Hegner.....	32		7					
Presbyterian Coll. of Christian Ed., Chicago.....	Presbyterian.....	1908	Robert D. Swanson (a).....	33	455C		0	38,260	875,491	985,865	4,233,931
Principles Coll., Elmhurst.....	Private.....	1910	Fredric E. Morgan.....	42	618C	105	38,000	22,950	350,000	1,500,000	1,500,500
Rocky Coll. d Seminary, Quincy.....	Catholic.....	1860	Henry Freiburg.....	49	369V	242	6	38,000	0	1,039,170	913,108
Roosevelt Coll., Rockford.....	Private.....	1847	Mary Ashby Cheek.....	42	4,500C	2,653	0	40,000	1,828,000	0	1,647,000
Roosevelt Coll., Chicago.....	Catholic.....	1945	E. J. Spauling.....	330	702W	4	0	58,450	583,941	100,000	3,000,000
St. Bede Jr. Coll., Peru.....	Catholic.....	1901	Sister Mary Peter.....	74							
St. Francis Xavier Coll. for Women, Chicago.....	Catholic.....	1912	Sister Mary Huberta.....	39	289W	6	0	52,000			
St. Mary of the Lake Seminary, Mundelein.....	Catholic.....	1885	Malachy P. Foley.....	20	190M	62	0	40,000		0	3,000,000
School of the Art Institute of Chicago, Chicago.....	Private.....	1879	Hubert Ropp.....	59	964C	566	16	42,000			
Sherwood Music School, Chicago.....	Private.....	1897	Walter A. Erley Weaver.....	32	2,62C	108	0	37,737	385,000	89,000	598,466
Shurtleff Coll., Alton.....	Baptist.....	1869	Delyte W. Morris.....	240	367C	290	143	9,423	2,103,869	0	3,061,999
Southern Illinois Univ., Carbondale.....	State.....	1927	Mother De Pazzi.....	34	802C	1,109	0	1,500			
Springfield Junior Coll., Springfield.....	Township.....	1929	A. V. Lockhart.....	900	2,528C	5:51	7,922	31,378,604	72,344,407	0	230,954
Thurston Junior Coll., Harvey.....	Private.....	1862	Robert M. Hutchins.....	3,234	23,67C	11,883	2,984	1,760,000	10,972,359	2,790,029	47,774,123
Univ. of Chicago, Chicago.....	State.....	1868	George D. Stoddard.....	104		416	80	63,073	2,403,928		61,616,161
Univ. of Illinois, Urbana.....	State.....	1869	F. A. VanderCook.....	120	1,245C	450	65	93,000	786,000		3,394,555
VanderCook School of Music, Chicago.....	Private.....	1880	V. Raymond Edman.....	120	1,500C	416	65	93,000	1,734,387		2,500,000
Western Illinois State Coll., Macomb.....	State.....	1890	F. A. Bee.....	104							
Wheaton Coll., Wheaton.....	Private.....	1860	John A. Morrison.....	55	690C	279		14,329	482,203	35,035	581,967
Anderson Coll. & Theological Seminary, Anderson.....	Ch. of God.....	1917	Lynd F. Sunderman.....	87	367C	186	38	17,481	348,417		5,149,883
Arthur Jordan Conservatory of Music, Indianapolis.....	Private.....	1928	Lois B. Emms.....	172	2,691C	1,007	35	102,768	1,869,033	0	3,556,478
Ball State Univ., Coll., Muncie.....	State.....	1918	M. O. Ross.....	250	3,676	2,173	112	138,000	5,081,082		500,000
Butler Univ., Indianapolis.....	Private.....	1870	Mad. L. Leavelle.....	26	313C	158	18	18,000	120,000		8,567,342
Canterbury Coll., Danville.....	Episcopal.....	1878	Clyde E. Widman.....	132	2,119C	533	4	107,109	1,510,587	6,424,778	1,046,489
DePaul Univ., Greencastle.....	State.....	1857	Thomas E. Jones.....	60	760C	206	4	73,000	130,401	400,000	2,500,000
Earlham Coll., Richmond.....	Presb. Friends.....	1847	Lincoln B. Hale.....	90	1,445C	821	4	26,332	1,018,147	20,931	44,000
Evansville Coll., Evansville.....	Methodist.....	1854	Walton H. McBride.....	6	42C	11	4	867	29,906		700,376
Franklin College, Franklin.....	Baptist.....	1828	Robert H. Kent.....	33	584C	231	0	41,317	459,797	1,203,005	435,000
Gary Coll., Gary.....	Private.....	1932	Albert Fertsch.....	35				35,300	448,463	250,000	2,200,000
Holmes Coll., Hanover.....	Presbyterian.....	1903	Ernest E. Miller.....	43	610C	55	0	40,000	1,800,000	80,000	325,000
Huntington Coll., Indianapolis.....	U. Brethren.....	1827	A. G. Parker, Jr.....	28	219C	81	4	15,648	148,922	111,403	620,181
Indiana Central Coll., Indianapolis.....	Ev. U. Breth.....	1897	Elmer Becker.....	43	445C	175	96	21,700	108,375		4,516,123
Indiana State Tech. Coll., Terre Haute.....	State.....	1902	L. Lynd Esch.....	121	2,333C	1,073	96	150,000	1,480,000		
Indiana Technical Coll., Fort Wayne.....	Private.....	1865	Ralph N. Trey.....	61	1,163M	6,781	1,319	800,000	26,000,000		150,000
Indiana Univ., Bloomington and Indianapolis.....	State.....	1830	Archie T. Keene.....	975	11,416C	6,781	88	6,670	48,961 (b)	6,000	944,432
John Herron Art Institute, Indianapolis.....	Private.....	1902	Donald M. Mattison.....	9	165C		0	35,913	568,718	602,201	350,000
Manchester Coll., North Manchester.....	Ch. Brethren.....	1889	V. F. Schwalin.....	52	865C	190	0	20,000	153,223	53,000	119,486
Marian Coll., Indianapolis.....	Catholic.....	1899	Sister Mary Kevin.....	24	242W	1	1	18,000	37,485	340,000	24,991,763
Marion Coll., Marion.....	Wes. Meth.....	1920	William F. McConn.....	23	510C	132	1	17,880	19,166,374	207,255	2,186,511
Oakland City Coll., Oakland City.....	Baptist.....	1885	James E. Cox.....	96	1,06C	96	0	255,305	627,971	473,117	1,977,889
Purdue Univ., Lafayette.....	State.....	1869	Federick L. Hoyde.....	989	498M	7,956	1,368	45,000	537,806	148,445	500,000
Rose Polytechnic Inst., Terre Haute.....	Private.....	1874	Carl Wischniery (a).....	40	556M	373	0	50,000	380,000	100,000	1,000,000
St. Joseph's Coll., Collegeville.....	Catholic.....	1889	Alfred J. Zanolari.....	51	388W	211	0	74,786			
St. Mary-of-the-Woods Coll., St. Mary-of-the-Woods.....	Catholic.....	1844	Mother Mary Bernard.....	52	505W	29	0	59,201			
St. Mary's Coll., Notre Dame.....	Catholic.....	1861	Sister M. Madeleva.....	40	166M	143	148M	30,000			
St. Meinrad Seminary, St. Meinrad.....	Catholic.....	1861	Ignatius Esser.....	33	530C	143	0	6,500			
Taylor Univ., Upland.....	Private.....	1846	Clyde W. Meredith.....	33			0				
Trif-State Coll., Angola.....	Private.....	1884	J. Glenn Radcliffe.....	50	1,528C	1,338	0				

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Univ. of Notre Dame, Notre Dame.....	Catholic.....	1842	John J. Cavanaugh.....	448	4,703M	2,506	387	234,338	\$ 6,989,009	\$ 3,891,638	\$ 9,123,635
Valparaiso Univ., Valparaiso.....	Lutheran.....	1859	Otto Paul Kretzmann.....	120	1,958C	804	....	107,502	1,300,000	437,000	3,500,000
Vincennes Univ., Jr. Coll., Vincennes.....	District.....	1924	Walter A. Davis.....	18	....C	83	....	....	....	....	1,508,921
Wabash Coll., Crawfordsville.....	Private.....	1832	Frank Hugh Sparks.....	47	616M	239	0	96,758	538,891	2,739,423	....
Boone Junior Coll., Boone.....	District.....	1927	J. P. Thorngren.....	10	74C	21	20	20,000	....	....	1,401,605
Brier Cliff Coll., Sioux City.....	Catholic.....	1930	Sister Jean Marie.....	32	437C	5	0	22,500	175,000	223,000	1,566,000
Buena Vista Coll., Storm Lake.....	Presbyterian.....	1891	Henry Olson.....	32	437C	235	0	20,000	175,000	223,000	1,566,000
Burlington Junior Coll., Burlington.....	Municipal.....	1920	Urban Harten.....	36	236C	715	0	6,472	858,800	443,000	1,600,000
Central Coll., Pella.....	Ref. Ch.....	1853	Gerrit Van Lange.....	35	507C	140	0	23,198	147,000	....	1,600,000
Clarke Coll., Dubuque.....	Catholic.....	1843	Sister M. A. Graham.....	62	350W	....	0	23,198	147,000	....	1,600,000
Coe Coll., Cedar Rapids.....	Presbyterian.....	1851	B. S. Hollibaugh.....	850	712C	350	0	53,311	681,932	2,440,049	2,997,249
Cornell Coll., Mount Vernon.....	Methodist.....	1853	Russell David Cole.....	68	772C	195	0	65,000	858,874	2,780,094	1,323,949
Des Moines Skill Coll. of O. & S., Des Moines.....	Private.....	1898	E. F. Peters.....	32	772C	183	0	3,223	535,480	....	802,377
Drake Univ., Des Moines.....	Private.....	1881	H. G. Harmon.....	234	3,892C	2,324	103	117,156	2,058,983	1,742,374	2,349,420
Ellsworth Junior Coll., Iowa Falls.....	Municipal.....	1890	John H. Hill.....	11	126C	....	0	9,680	58,000	....	250,000
Ft. Dodge Junior Coll., Ft. Dodge.....	Municipal.....	1921	W. A. Erbe.....	15	238C	60	0	20,000	450,026	367	599,119
Graceland Coll., Lamoni [J].....	L.D.S.....	1895	E. J. Gleaser, Jr.....	31	551C	107	0	7,500	123,124	150,159	300,000
Grand View Coll., Des Moines [J].....	Lutheran.....	1896	Johannes Knudsen.....	80	290C	85	....	120,000	1,428,480	3,218,000	1,185,000
Grinnell Coll., Grinnell.....	Private.....	1846	Samuel N. Stevens.....	87	1,140C	319	1	375,000	14,670,483	1,308,036	17,971,541
Iowa State Coll. of A. & M., Ames.....	State.....	1858	C. E. Friley.....	1,232	10,069C	5,107	935	375,000	14,670,483	1,308,036	17,971,541
Iowa State Coll. of A. & M., Ames.....	State.....	1876	Malcolm Price.....	256	2,900C	851	....	140,000	....	....	....
Iowa Wesleyan Coll., Cedar Falls.....	Methodist.....	1842	Stanley B. Niles.....	60	588C	250	0	40,000	377,403	700,000	1,000,000
Loras Coll., Dubuque.....	Catholic.....	1839	Sylvester D. Luby.....	78	1,484C	667	179	112,000	1,500,000	580,272	1,180,914
Luther Coll., Decorah.....	Ev. Lutheran.....	1897	J. W. Yivisaker.....	63	875C	374	0	89,700	530,073	....	....
Marshalltown Junior Coll., Marshalltown.....	District.....	1927	B. R. Miller.....	12	....C	19	....	8,238	40,787	....	....
Mason City Junior Coll., Mason City.....	Municipal.....	1918	C. H. Beem.....	22	205C	72	0	57,575	611,138	585,182	1,058,248
Morningside Coll., Sioux City.....	Methodist.....	1889	Earl A. Roadman.....	52	1,030C	519	0	8,805	57,751	0	479,156
Mt. Mercy Junior Coll., Cedar Rapids.....	Catholic.....	1928	Sr. M. I. Holland.....	18	98W	23	0	3,325	104,000	43,500	288,000
Muscatine Junior Coll., Muscatine.....	Municipal.....	1928	James F. Loper.....	7	74C	....	0	11,000	380,840	532,625	652,051
Northwestern Junior Coll., Ottumwa [J].....	Ref. Ch.....	1925	Jacob Heemstra.....	14	125C	18	0	26,000	300,000	600,000	1,700,000
Ottumwa Heights Coll., Ottumwa [J].....	Catholic.....	1875	Sister Marie Kennedy.....	20	82W	....	0	35,000	363,865	1,508,000	647,000
Parsons Coll., Fairfield.....	Presbyterian.....	1882	Pon E. Shearer.....	89	367C	187	0	694,532	14,386,475	1,027,249	768,341
St. Ambrose Coll., Davenport.....	Catholic.....	1882	A. J. Burke.....	33	1,255M	645	0	32,000	535,116	....	....
Simpson Coll., Indianola.....	Methodist.....	1860	E. E. Voigt.....	44	779C	....	0	7,500	418,817	137,046	507,047
State Univ. of Iowa, Iowa City.....	State.....	1847	Virgil M. Hancher.....	1,223	9,045C	5,453	1,841	16,000	192,920	283,750	787,702
State Univ. of Dubuque, Dubuque.....	State.....	1852	Rollo La Porte.....	53	629C	201	47	32,000	535,116	....	....
Upper Iowa Univ., Fayette.....	Presbyterian.....	1857	Vivian T. Smith.....	....	....C	236	....	26,500	217,000	106,000	550,000
Waldorf Coll., Forest City [J].....	Private.....	1903	M. O. Nielsen.....	30	340C	64	0	26,500	217,000	106,000	550,000
Warburg Coll., Waverly.....	Lutheran.....	1868	C. H. Becker.....	44	683C	133	97	27,350	192,920	283,750	787,702
Warburg Theological Seminary, Dubuque.....	Lutheran.....	1868	Bernard J. Holm.....	6	....C	....	0	16,000	192,920	283,750	787,702
Westmar Coll., Le Mars.....	Ev. U. Breth.....	1900	David O. Kime.....	27	936C	101	0	26,500	217,000	106,000	550,000
William Penn Coll., Oskaloosa.....	Soc. Friends.....	1873	Cecil E. Hunsaw.....	26	230C	55	0	26,500	217,000	106,000	550,000
Arkansas City Junior Coll., Arkansas City.....	Municipal.....	1922	K. R. Galle.....	94	215C	50	0	7,500	418,817	137,046	507,047
Baker Univ., Baldwin.....	Methodist.....	1856	Nelson P. Horn.....	34	667C	201	0	7,500	418,817	137,046	507,047
Bethany Coll., Lindsay.....	Lutheran.....	1856	Edmund Linquist.....	33	366C	100	0	7,500	418,817	137,046	507,047
Bethel Coll., North Newton.....	Methodist.....	1881	Ed G. Kaufman.....	37	416C	67	175	17,190	224,125	675,803	880,223
Central Baptist Theol. Seminary, Kansas City.....	Methodist.....	1871	Wm. W. Adams.....	20	38C	10	0	17,190	224,125	675,803	880,223
Central Coll., McPherson.....	Presbyterian.....	1901	Mendel B. Miller.....	20	98C	35	0	17,190	224,125	675,803	880,223
Chanute Junior Coll., Chanute.....	District.....	1914	Howard A. Vester.....	20	204C	35	0	17,190	224,125	675,803	880,223
Coffeyville Junior Coll., Coffeyville.....	Methodist.....	1899	Paul M. Wilson.....	33	328C	141	154	17,190	224,125	675,803	880,223
Coll. of Emporia, Emporia.....	Presbyterian.....	1882	Paul B. McCleave.....	26	210C	96	0	26,000	219,065	188,224	777,719
Dodge City Junior Coll., Dodge City.....	District.....	1882	W. H. Crawford.....	14	210C	48	70	10,432	65,000	....	550,000
El Dorado Junior Coll., El Dorado.....	District.....	1882	Max Bickford.....	48	222C	48	70	10,432	65,000	....	550,000
Fort Hays Kansas State Coll., Hays.....	Municipal.....	1902	L. D. Wooster.....	92	979C	359	16	31,150	840,363	0	2,000,000

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fort Scott Jr. Coll., Fort Scott.....	Municipal.....	1919	V. S. Hass.....	200C	50	0	7,126	\$	21,300	\$	240,000
Friends Univ., Wichita.....	Soc. Friends.....	1898	S. Arthur Watson.....	491C	190	0	25,000		287,879	\$	473,881
Garden City Jr. Coll., Garden City.....	Municipal.....	1919	R. C. Guy.....	128C	12	0	2,112		42,000	0	300,000
Hessston Coll., Hessston.....	Mennonite.....	1909	Milo Kaufman.....	276C	2	104	5,550		140,769	43,000	375,000
Highland Junior Coll., Highland.....	Local.....	1937	Ruth M. Culbertson.....	C	19	0	6,652		104,083	0	750,000
Hutchinson Junior Coll., Hutchinson.....	Municipal.....	1928	C. M. Lockman.....	430C	57	0	5,279		43,974	0	360,000
Indiana Wesleyan Junior Coll., Indianapolis.....	Municipal.....	1925	Fred Chitto.....	244C	52	0	6,877		7,836,013	557,121	5,598,697(b)
Kan. as Civ. Kansas Junior Coll., Kansas City.....	State.....	1923	J. F. Wellenmeyer.....	518C	173	0	145,682		965,240	250,000	2,401,812
Kan. as State Coll., Manhattan.....	State.....	1863	Milton S. Eisenhower.....	7,018C	38	0	95,000		61,163	0	1,131,957
Kan. as State Coll., Emporia.....	State.....	1863	David L. MacFarlane.....	1,411C	624	38	80,000		871,577	92,848	2,044,317
Kan. as State Coll., Pittsburg.....	State.....	1903	Ross H. Hughes.....	1,786C	988	87	20,000		234,250	452,682	1,280,976
Kan. as State Coll., Salina.....	Methodist.....	1886	Herbert J. Root.....	C	280	0	22,068		291,460	146,470	1,131,957
Kan. as State Coll., Salina.....	Catholic.....	1922	Mother M. Chrysostom.....	248W	2	0	15,000		252,071	423,554	662,011
McPherson Coll., McPherson.....	Ch. Brethren.....	1867	W. W. Peters.....	360C	74	0	27,000		0	0	0
Mt. St. Scholastica Coll., Atchison.....	Catholic.....	1893	Mother Lucy Dooley.....	381W	2	71	80,000		871,577	92,848	2,044,317
Municipal Univ. of Wichita, Wichita.....	Municipal.....	1925	William M. Jardine.....	3,124C	1,864	217	20,000		234,250	452,682	1,280,976
Ottawa Univ., Ottawa.....	Baptist.....	1865	Andrew R. Martin.....	575C	185	0	0		44,574	0	500,000
Parsons Junior Coll., Parsons.....	Municipal.....	1923	E. F. Farmer.....	158C	49	0	8,325		0	0	0
Pratt Junior Coll., Pratt.....	District.....	1923	James W. Glad.....	158C	28	0	18,000		0	0	0
Sacred Heart Coll., Wichita [J].....	Catholic.....	1923	Charles A. Smith.....	48W	28	0	100,000		240,374	170,869	1,619,920
St. Benedict's Coll., Atchison.....	Catholic.....	1869	Charles McDonald.....	520W	200	0	13,000		70,445	0	750,000
St. John's Coll., Winfield [J].....	Catholic.....	1893	C. S. M. Murphy.....	284W	28	0	36,000		0	0	0
St. Mary's Coll., Winfield.....	Catholic.....	1923	A. M. Murphy.....	284W	3	0	28,000		392,883	594,961	971,753
Southwestern Coll., Winfield.....	Methodist.....	1865	Mearl P. Colver.....	558C	198	0	24,000		157,730	470,000	386,535
Sterling Coll., Sterling.....	U. Presb.....	1867	Wm. M. McGreevy.....	262C	70	4	9,000		208,998	0	265,000
Union Coll., Hillsboro [J].....	Mennonite.....	1908	P. E. Schelleng.....	237C	24	4	393,799		7,443,500	1,230,000	12,392,000
Univ. of Kansas, Lawrence.....	State.....	1866	Deane W. Malott.....	8,546C	4,700	650	64,528		726,205	1,423,239	1,403,740
Washburn Municipal Univ., Topeka.....	Municipal.....	1865	Bryan S. Stoffer.....	1,662C	880	0	0		0	0	0
Asbury Coll., Wilmore.....	Private.....	1890	Z. T. Johnson.....	954C	227	0	34,898		56,873	1,175,000	1,224,000
Ashland Junior Coll., Ashland.....	Municipal.....	1935	E. W. Beck.....	201C	41	0	6,494		787,450	6,080,843	126,204
Beres Coll., Beres.....	Private.....	1855	Francis S. Hutchins.....	1,079C	219	0	107,313		0	0	0
Bethel Woman's Coll., Hopkinsville [J].....	Baptist.....	1916	P. W. James.....	W	1	0	19,255		817,451	17,168	255,385
Bowling Green Coll. of Commerce, Bowling Green.....	Private.....	1922	J. Murray Hill.....	819C	688	0	8,857		105,980	40,000	150,000
Campbellsville Coll., Campbellsville [J].....	Baptist.....	1924	John M. Carter.....	243C	40	0	37,441		601,276	1,902,899	1,168,517
Caney Junior Coll., Pipepass.....	Private.....	1923	Alice Lloyd.....	92C	11	0	55,197		77,081	659,000	705,000
Centre Coll. of Kentucky, Danville.....	Presbyterian.....	1819	Walter A. Groves.....	608C	244	58	8,300		1,161,748	3,829,268	682,640
Coll. of the Bible, Lexington.....	Disc. Christ.....	1865	Stephen J. Corey (a).....	[G]C	18	0	16,000		108,000	0	202,814
Cumberland Coll., Williamsburg.....	State.....	1889	James M. Boswell.....	328C	67	0	17,135		232,669	344,812	627,618
Eastern Kentucky State Tchrs. Coll., Richmond.....	Baptist.....	1908	William F. O'Donnell.....	1,500C	515	47	7,500		205,291	28,045	290,579
Georgetown Coll., Georgetown.....	Baptist.....	1829	S. S. Hill.....	744C	277	0	3,000		0	0	0
Jefferson School of Law, Louisville.....	Private.....	1905	B. F. Washer.....	229C	177	0	8,000		68,068	108,000	202,814
Kentucky Christian Coll., Grayson.....	Disc. Christ.....	1886	R. B. Atwood.....	648C	209	3	17,800		222,006	0	2,000,000
Kentucky State Coll., Frankfort [a].....	State.....	1866	Paul S. Powell.....	596C	91	0	22,687		0	0	0
Kentucky Wesleyan Coll., Winchester.....	Methodist.....	1854	Robert G. Landolt.....	208C	45	0	0		0	0	0
Lees Junior Coll., Jackson.....	Presbyterian.....	1904	P. P. Henry.....	235C	96	0	6,587		0	0	0
Lindsey Wilson Junior Coll., Columbia.....	Methodist.....	1929	Mother Rebecca Burke.....	63W	290	0	0		0	0	0
Loretto Junior Coll., Morehead.....	State.....	1923	William J. Baird.....	W	26	0	40,000		117,000	647,000	140,000
Mt. St. Joseph Junior Coll., Maple Mount.....	Catholic.....	1925	Ralph M. Woods.....	1,560C(c)	596	0	28,178		36,000	812,894	386,946
Murray State Tchrs. Coll., Murray.....	State.....	1920	Sister M. A. Coady.....	400W	50	0	25,000		110,000	0	500,000
Nazareth Coll., Louisville.....	Catholic.....	1920	Sister M. Gertrude.....	870W	20	0	4,935		0	0	0
Nazareth Junior Coll., Nazareth.....	Municipal.....	1932	Sister M. Gertrude.....	149C	39	0	11,000		0	0	0
Paducah Junior Coll., Paducah.....	Presbyterian.....	1860	A. A. Page.....	209C	40	0	5,400		53,472	2,368,413	3,610,827
Pikeville Coll., Pikeville [J].....	Catholic.....	1931	Albert A. Beets.....	205W	32	0	60,577		725,898	866,028	866,028
St. Catherine Junior Coll., St. Catherine.....	Private.....	1891	Julia F. Fuller.....	598M	280	170	335,803		289,347	572,087	710,723
St. Mary's Coll., St. Mary [J].....	Private.....	1860	Oscar S. Ford.....	148C	44	0	18,921		8,568,871	198,428	17,158,997
Southern Baptist Theol. Seminary, Louisville.....	Methodist.....	1897	Raymond F. Molain.....	520C	224	0	0		0	0	0
Sue Bennett Coll., London [J].....	Disc. Christ.....	1870	Raymond F. Molain.....	454C	226	0	0		0	0	0
Transylvania Coll., Lexington.....	Methodist.....	1879	Garman Boatman.....	454C	226	0	0		0	0	0
Union Coll., Barboursville.....	State.....	1805	Herman Lee Donovan.....	6,386C	4,361	416	437,000		0	0	0

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Univ. of Louisville, Louisville	Municipal	1798	John W. Taylor	613	4,486C	2,175	199	187,316	\$ 3,224,325	\$ 1,997,156	\$ 3,697,533
Ursuline Coll., Louisville	Catholic	1921	Mother M. Resolin	40	121W	0	0	20,475	...	...	...
Villa Coll., Covington	Catholic	1921	William T. Mulloy	80	310C	72	0	15,000	...	...	...
Western Ky. State Tchrs. Coll., Bowling Green	State	1906	Paul L. Garrett	110	1,838C	718	41	78,000	702,580 (6)	...	3,248,520
Centenary Coll. of Louisiana, Shreveport	Municipal	1825	Joe J. Mickle	61	1,080C	948	0	29,757	782,614	800,270	1,029,295
Dillard Univ., New Orleans	Private	1930	Albert W. Dent	16	...	139	0	30,000	385,044	3,000,000	2,136,093
Grambling Coll., Grambling	State	1902	R. W. E. Jones	64	...	112	...	...	...	...	...
John McNeese Junior Coll., Lake Charles	State	1939	L. E. Frazer	31	375C	106	...	7,597	...	...	...
Leland Coll., Baker	Private	1870	J. M. Frazer	20	230C	63	...	7,000	118,807	104,169	645,600
Louisiana Coll., Pineville	Private	1906	E. Garbold	43	826C	288	...	18,000	325,573	748,727	787,185
Louisiana Polytechnic Inst., Ruston	State	1894	E. Garbold	184	2,667C	1,135	...	40,143	1,021,640	0	4,222,614
Louisiana State Univ., University Station	State	1890	Harold W. Stokes	673	11,000C	4,308	827	435,478	13,588,092	329,313	32,481,261
Loyola Univ., New Orleans	Catholic	1912	Thomas J. Shields	200	1,900C	1,322	0	120,000	5,000,000	...	1,401,764
New Orleans Baptist Theol. Seminary, New Orleans	Private	1918	Roland C. Leavelle	17	338C	109	26	33,000	436,144	1,014	2,000,000
Northwestern Baptist Coll., Monroe	State	1931	Rodney Cline	40	595C	147	0	10,793	200,000	...	4,315,400
Northwestern State Coll. of La., Natchitoches	State	1884	Joseph E. Gibson	101	1,448W	508	0	56,359	1,632,431	...	1,231,162
St. Mary's Dominican Coll., New Orleans	Catholic	1910	Sister Mary Louise	23	180W	...	...	12,051	...	...	2,500,000
Southeastern Louisiana Coll., Hammond	State	1925	G. J. Tinsley	99	1,241C	456	0	34,844	922,555	...	2,072,086
Southern Univ. and A. & M. Coll., Baton Rouge	State	1880	Felton G. Clark	127	1,079C	500	0	39,637	1,098,080	0	2,500,000
Southwestern Louisiana Inst., Lafayette	State	1898	Joel L. Fletcher	225	3,338	1,368	...	74,803	1,171,132	3,947,617	10,006,597
Tulane Univ. of Louisiana, New Orleans	Private	1834	Rufus C. Harris	856	4,598C	3,021	707	488,402	5,941,003	13,740,072	10,006,597
Ursuline Coll., New Orleans	Catholic	1927	Mother M. Clark	22	85W	1	...	12,000	...	...	2,627,776
Xavier Univ., New Orleans	Catholic	1925	Mother M. Agatha	86	895C	386	19	53,017	620,582	596,900	...
Bangor Theological Seminary, Bangor	Cong.	...	Harry Trust	...	...	31	...	...	...	...	1,543,471
Bates Coll., Lewiston	Private	1864	Charles F. Phillips	58	828C	258	...	80,000	748,068	2,389,514	3,913,471
Boydston Coll., Brunswick	Private	1794	Kenneth C. M. Sills	78	1,010M	467	...	228,803	1,382,319	9,100,365	4,194,418
Calby Coll., Waterville	Private	1813	Julius S. Bixler	76	1,080C	326	...	130,000	1,084,428	4,000,000	1,500,000
Farmington State Tchrs. Coll., Farmington	State	1864	Errol L. Dearborn	303C	303C	48	...	12,000	235,522	...	1,000,000
Gorham State Tchrs. Coll., Gorham	State	1878	Francis L. Bailey	37	260C	77	...	14,000	230,000	0	1,000,000
Nassau Coll., Springville	Private	1912	H. M. Davis, Jr.	20	105W	6	...	8,000	90,000	150,000	400,000
Northern Conservatory of Music, Bangor	Private	...	A. Stanley Cayting	...	...	12	...	5,166	112,000	...	200,000
Portland Junior Coll., Portland	Private	1933	Luther I. Bonney	20	204M	107	...	2,000	103,671	45,448	538,750
Ricker Junior Coll., Houlton	Private	1926	Roy A. Bither	19	198C	99	122	220,733	5,075,365	36,783	5,621,586
Univ. of Maine, Orono	State	1865	Arthur C. Haneke	311	4,657C	2,774	...	5,000	86,000	...	150,000
Washington State Normal School, Machias	State	1909	Lincoln A. Sennett	12	80C	19	...	8,200	...	73,466	422,450
Westbrook Junior Coll., Portland	Private	1831	Milton D. Proctor	34	368W	...	...	...	...	...	...
Baltimore City Junior Coll., Baltimore	Local	1947	C. H. Katenkamp	33	292C	125	0	6,705	70,000	0	...
Baltimore Coll. of Commerce, Baltimore	Y.M.C.A.	1909	Howard L. Bradley	54	1,226C	803	...	1,500	216,914	...	1,904,978
Coll. of Notre Dame of Maryland, Baltimore	Catholic	1873	Sister Mary Frances	55	404W	2	...	30,000	416,699	160,000	3,936,749
Coppin Tchrs. Coll., Baltimore	Municipal	1900	Miles W. Connor	25	...	1	...	...	...	...	...
Goucher Coll., Baltimore	Private	1885	Otto F. Kraushaar	61	729W	8	0	86,380	835,456	2,101,398	870,894
Hagerstown Junior Coll., Hagerstown	District	1946	A. M. Isanogile	25	120C	54	0	5,000	683,985	...	1,874,042
Hood Coll., Frederick	Private	1893	Andrew Gehl Truxal	55	515W	1	1,308	30,000	893,381	35,548,775	15,639,283
Johns Hopkins Univ., Baltimore	Private	1876	Isaian Bowman	1,265	1,771M	3,054	...	781,701	8,938,381	80,000	1,700,000
Loyola Coll., Baltimore	Private	1852	Francis S. Talbot	65	1,725C	769	0	38,000	625,000	...	...
Maryland Coll. for Women, Lutherville	Private	1853	W. H. Moore, III	20	236W	...	...	12,000	...	...	...
Maryland Inst., Baltimore	Private	...	Hans Schuler	208	...	...	...	...	...	...	...
Montgomery Junior Coll., Bethesda	District	1946	Ruth G. Price	35	276C	208	...	3,300	136,050	0	1,364,240
Morgan State Coll., Baltimore	State	1867	Harold D. Jenkins	102	1,762C	483	0	39,155	821,115	0	1,810,201
Mount Saint Agnes Coll., Mount Washington	Catholic	1867	Sister Mary Placide	37	176W	392	...	16,000	692,679	322,318	1,810,201
Mount Saint Mary's Coll., Emmitsburg	Catholic	1868	John L. Sheridan	85	364M	208	...	45,000	692,679	4,156,708	1,097,188
Peabody Inst. of the City of Baltimore, Baltimore	Private	1868	Reginald Stewart	61	347C	208	0	268,000	391,427	...	...
Princess Anne Coll., Princess Anne	State	1886	John I. Williams	37	325C	99	0	3,615	...	...	...

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
St. Catharines, Ont.	Catholic.	1908	G. A. Gleason	14	.....	34	.....	42,329	\$ 403,567	\$ 232,889	\$ 1,125,000
St. Catharines, Ont.	Private	1900	John S. Keffeler	34	231W	143	0	16,613	.....	.....	.....
St. Catharines, Ont.	Catholic.	1791	Francis J. Dodd	23	184W	1	0	.....	.....	.....	.....
St. Catharines, Ont.	Catholic.	1867	William F. Hawker	23	.....	75	.....	17,485	165,189	.....	587,490
St. Catharines, Ont.	State	1902	William C. Compton	13	153C	.....	.....	23,713	190,806	.....	925,000
St. Catharines, Ont.	State	1903	J. D. Blackwell	43	735C	86	.....	32,076	421,740	.....	1,884,708
St. Catharines, Ont.	State	1893	Charles T. Hawkins	43	.....	105	0	121,000	.....	0	37,000,000
St. Catharines, Ont.	Private	1903	J. L. Halpin, Jr.	43	3,311W	.....	.....	210,000	12,543,572	2,587,599	19,738,349
St. Catharines, Ont.	Private	1907	Theodore M. Wilson	.....	.....	6,367	1,682	35,000	332,371	107,670	1,758,650
St. Catharines, Ont.	Private	1907	Harry C. Byrd	1,176	12,302C	6,367	1,682	89,500	832,371	899,500	2,139,500
St. Catharines, Ont.	Private	1907	Gilbert W. Mead	35	439C	195	.....	47,156	.....	1,000,000	.....
St. Catharines, Ont.	Private	1907	Correll S. Ensor	56	500C	251	3	100,000	.....	.....	.....
St. Catharines, Ont.	Catholic.	1899	F. C. Wheeler	28	164W	0	.....	12,000	.....	.....	.....
St. Catharines, Ont.	Private	1885	John H. Miller (o)	45	1,449C	866	.....	270,000	2,060,777	14,038,690	6,330,037
St. Catharines, Ont.	Private	1891	Charles W. Cline	117	1,902W	423	15	150,000	217,004	2,727,154	560,512
St. Catharines, Ont.	Private	1897	Harold W. Trumble	17	173C	.....	16	0	.....	.....	.....
St. Catharines, Ont.	Catholic.	1917	Henry N. Moquin	17	178C	21	0	39,000	.....	.....	.....
St. Catharines, Ont.	Adaptive	1889	E. B. Hinckley	33	336C	171	0	27,587	499,771	.....	932,681
St. Catharines, Ont.	Private	1919	Thomas G. Carr	51	555W	433	.....	16,000	.....	.....	.....
St. Catharines, Ont.	Private	1922	Thomas C. Kelso	12	.....	.....	.....	5,000	.....	.....	.....
St. Catharines, Ont.	Catholic.	1887	William L. Kelcher	35	578C	210	.....	219,274	.....	1,100,000	7,600,000
St. Catharines, Ont.	Private	1863	Marjorie B. Greene	423	5,051C	3,557	1,018	300,000	7,978,908	5,754,994	11,007,463
St. Catharines, Ont.	Private	1918	Daniel L. Marsh	24	83W	13	24	.....	.....	.....	.....
St. Catharines, Ont.	Private	1889	Ruth P. Sweet	1,126	9,794C	12,645	3,833	.....	430,000	270,000	1,366,300
St. Catharines, Ont.	Private	1903	Dorothy M. Bell	5	.....	5	0	18,000	.....	.....	.....
St. Catharines, Ont.	Private	1907	Abram Leon Saachar	18	108C	5	0	10,000	.....	.....	.....
St. Catharines, Ont.	Private	1912	C. F. Burdett	30	.....	.....	.....	5,000	.....	.....	.....
St. Catharines, Ont.	Private	1934	A. Chesley York	19	270C	100	25	2,059	47,111	10,458	75,000
St. Catharines, Ont.	Private	1934	Irving T. Richards	19	110C	30	0	.....	.....	.....	.....
St. Catharines, Ont.	Private	1937	Muriel Cox	23	.....	570	.....	175,000	.....	6,099,937	2,028,463
St. Catharines, Ont.	Private	1937	Howard B. Jefferson	75	867C	691	149	145,517	1,468,166	468,671	4,909,946
St. Catharines, Ont.	Catholic.	1928	Thomas M. O'Leary	26	279W	0	.....	14,802	.....	.....	.....
St. Catharines, Ont.	Catholic.	1843	John A. O'Brien	108	1,838W	803	7	10,000	.....	.....	.....
St. Catharines, Ont.	Private	1879	Donald W. Miller	83	131C	83	0	.....	.....	.....	.....
St. Catharines, Ont.	Private	1941	William C. Garner	19	.....	0	.....	17,500	325,091	0	570,872
St. Catharines, Ont.	Nazarene	1918	Edward S. Mann	33	459C	99	12	13,054	.....	.....	.....
St. Catharines, Ont.	Private	1880	Boylston Green	45	442C	155	2	13,084	.....	.....	.....
St. Catharines, Ont.	Catholic.	1919	Sister M. Patricia	76	734W	2	0	30,000	.....	.....	.....
St. Catharines, Ont.	Private	1939	George O. Biercoe	37	287W	2	0	8,275	.....	.....	.....
St. Catharines, Ont.	P.E.	1867	C. L. Taylor, Jr.	10	92M	69	2	41,180	.....	.....	.....
St. Catharines, Ont.	Private	1941	Stanford L. Fisher	27	.....	.....	.....	185,667	1,988,039	.....	1,141,014(6)
St. Catharines, Ont.	Private	1872	Gladsy B. Jones	18	142W	2	0	3,500	203,873	0	748,898
St. Catharines, Ont.	Private	1880	T. Leonard Lewis	39	367C	134	80	18,985	143,200	183,200	150,000
St. Catharines, Ont.	Private	1836	James Bryant Conant	2,233	5,462M	6,099	0	5,000,000	26,235,336	191,279,779	760,000
St. Catharines, Ont.	Private	1861	Raymond C. Wass	62	511W	0	0	13,000	560,141	65,000	1,500,000
St. Catharines, Ont.	Private	1895	Trentwell M. White	14	268W	6	0	16,800	148,181	0	77,434
St. Catharines, Ont.	State	1809	Kenneth R. Fox	313	27	27	27	5,338	1,130,141	1,800,000	5,000,000
St. Catharines, Ont.	Private	1823	H. C. Newton	30	604C	296	18	13,000	49,000	1,800,000	1,000,000
St. Catharines, Ont.	Private	1861	J. R. Kilian, Jr.	3,331C	474C	2,200	1,002	417,680	21,035,100	48,047,000	19,588,960
St. Catharines, Ont.	State	1893	H. G. Copeland	1,236	200M	4	.....	35,000	.....	0	6,000,000
St. Catharines, Ont.	Private	1874	Gordon L. Reynolds	17	.....	139	.....	.....	.....	.....	.....
St. Catharines, Ont.	Private	1909	Herman L. Klein	22	262M	170	0	3,300	80,000	0	300,000
St. Catharines, Ont.	Catholic.	1947	Vincent A. McQuade	23	292M	186	0	12,000	225,000	0	225,000
St. Catharines, Ont.	Private	1837	Reverend Gray Ham	161	1,132W	8	68	205,000	2,065,184	6,565,378	5,769,579
St. Catharines, Ont.	Private	1939	William F. Carlson	37	.....	.....	.....	.....	.....	.....	.....
St. Catharines, Ont.	Swedenborgian	1887	Franklin H. Blackner	.....	.....	0	.....	.....	.....	.....	.....
St. Catharines, Ont.	Private	1867	Harrison Keller	95	900C	260	25	21,600
St. Catharines, Ont.	Municipal	1946	C. Elwood Drake	38	149C	32	0	2,500	0
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Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Full-time Undergraduates	Fall enrollment, 1948				1947-1948			Value of Plant
						(8)	(7)	(6)	(5)	(9)	(10)	(11)		(12)
Northeastern Univ., Boston	Private	1898	Carl Stephens Ell	160	3,075C	2,050	167	40,648	\$2,428,478	\$ 1,108,677	\$ 3,845,984		
Norfolk Junior Coll., Dudley	Private	1891	J. L. Conrad	25	263W	111	0	7,000	417,500	0	588,000		
Pine Manor Junior Coll., Wellesley	Private	1911	Mario W. Potter	31	151C	70	0	7,500	0	0	0		
Portland State Coll., Boston	Private	1908	A. Chesley York	13	055W	29	318	100,000	1,134,936	8,139,800	3,235,962		
Radiation Coll., Cambridge	Private	1879	Wilbur K. Jordan	60	580W	29	0	30,000	400,000	1,200,000	4,500,000		
Regin Coll., Weston	Private	1927	St. M. St. Ignatius	22	375M	65	180	85,000	1,171,115	3,682,137	2,728,570		
St. John's Sem. Bury, Brighton	Catholic	1894	Edward G. Murray	171	1,091W	108	188	99,521	6,907,243	12,708,544	12,708,544		
Smith Coll., Northampton	Private	1871	Herbert Davis	260	2,134W	11	128	835,426	1,087,885	1,121,449	1,952,157		
Springfield Coll., Springfield	Y. M. C. A.	1885	Paul M. Limbert	88	125M	1,044	103	40,000	181,080	15,000	1,418,741		
Springfield Coll., Springfield	Local	1917	Paul R. Marsh	16	C	19	0	26,161	232,412	0	900,000		
State Techn. Coll., Bridgewater	State	1840	John J. Kelly	44	591C	81	12	37,700	0	0	0		
State Techn. Coll., Fitchburg	State	1894	William J. Sanders	48	438C	178	0	20,000	0	0	0		
State Techn. Coll., Framingham	State	1859	Martin F. O'Connor	35	469W(c)	6	0	30,000	15,413	0	253,900		
State Techn. Coll., Framingham	State	1897	James Dugan	81	225C	13	0	11,000	108,000	0	1,000,000		
State Techn. Coll., North Adams	State	1894	Grover C. Bowman	18	167C	60	1	18,569	36,215	0	253,800		
State Techn. Coll., Salem	State	1854	Edward A. Sullivan	42	492C	74	0	15,000	0	0	600,000		
State Techn. Coll., Westfield	State	1859	Edward J. Scanlon	10	176C	42	0	16,325	0	0	1,750,000		
State Techn. Coll., Worcester	State	1871	Eugene A. Sullivan	20	1048	57	70	6,000	0	0	891,000		
Stonehill Coll., North Easton	Private	1906	George P. Benaglia	10	137M	62	0	24,440	159,117	0	0		
Suffolk Univ., Boston	Private	1852	William F. Burse	75	1,395C	1,150	7	30,000	1,757,977	9,671,659	4,998,133		
Tufts Coll. of the City of Boston, Boston	Municipal	1852	William F. Looney	28	329W	17	202	200,000	3,177,398	14,611,226	13,387,994		
Tufts Coll., Medford	Private	1862	Leonard Carmichael	863	3,547C	1,973	0	148,169	773,778	1,253,320	2,698,548		
Univ. of Massachusetts, Amherst	State	1863	Ralph A. Van Meter	309	8,410C	2,366	4	264,753	323,000	102,735	618,283		
Wellesley Coll., Wellesley	Private	1870	Mildred M. Horton	210	1,744W	4	71	63,643	1,379,745	13,176,781	6,222,690		
Wellesley Coll., Norton	Private	1884	A. Howard Menely	72	488W	3	0	11,765	286,736	4,576,357	2,588,571		
Wheaton Coll., Wheaton	Private	1889	Winifred E. Bain	20	372W	425	14	200,000	655,834	0	0		
Williams Coll., Williamstown	Private	1793	J. P. Baxter, 3d	131	1,126M	0	303	4,100	400,605	390,471	710,275		
Worcester Junior Coll., Worcester	Y. M. C. A.	1888	Randall W. Hoffmann	24	444C	542	35	35,000	964,690	3,528,176	2,032,723		
Worcester Polytechnic Inst., Worcester	Private	1865	Wat T. Cluervius	84	851M	194	0	15,000	581,910	0	800,268		
Adrian Coll., Adrian	Methodist	1845	Samuel J. Harrison	48	487C	393	3	15,000	581,910	0	800,268		
Albion Coll., Albion	Methodist	1855	W. W. Whitehouse	77	1,850C	393	0	68,724	964,690	3,528,176	2,032,723		
Alma Coll., Alma	Presbyterian	1886	Dale D. Welch	47	648C	274	0	63,222	152,072	0	755,553		
Aquinas Coll., Grand Rapids	Catholic	1923	Arthur F. Bukowski	42	434C	136	0	12,919	139,925	0	1,750,000		
Bay City Junior Coll., Bay City	Municipal	1922	G. E. Butterfield	37	494C	187	0	83,400	160,005	0	688,559		
Calvin Coll., Grand Rapids	Chris. Ref.	1876	Henry Schultze	53	1,465C	388	14	32,500	375,745	200,000	180,000		
Calvin Theological Seminary, Grand Rapids	Chris. Ref.	1876	Samuel Volbeda	53	36C	10	14	32,500	60,000	0	8,157,860		
Central Michigan Coll. of Ed., Mount Pleasant	State	1892	C. L. Anspaach	151	2,239C	864	72	69,958	1,967,037	0	700,000		
Dearborn Junior Coll., Dearborn	Municipal	1938	Fred K. Eshleman	30	518C	175	0	22,000	147,000	0	0		
Detroit Coll. of Law, Detroit	Y. M. C. A.	1891	John J. Danhof	17	478C	369	0	10,000	117,679	0	0		
Detroit Inst. of Technology, Detroit	Y. M. C. A.	1891	Virgil R. Loughheed	125	1,372C	303	0	10,000	1,470,215	300,000	1,848,596		
Emmanuel Missionary Coll., Berrien Springs	Adventist	1891	Byron J. Brophy	51	1,045C	380	0	37,420	400,605	0	816,347		
Ferris Inst., Big Rapids	Private	1884	Alvin W. Johnson	45	1,123C	380	0	37,420	1,470,215	0	816,347		
Flint Junior Coll., Flint	Municipal	1923	Arthur E. Erickson	42	778C	274	0	14,000	198,103	0	0		
Gogebic Junior Coll., Ironwood	Municipal	1923	Arthur E. Erickson	42	778C	274	0	14,000	198,103	0	0		
Grand Rapids Junior Coll., Grand Rapids	Municipal	1932	Arthur E. Erickson	20	190C	100	0	8,200	173,663	0	991,000		
Highland Park Junior Coll., Highland Park	Municipal	1914	Grant O. Withey	58	1,130C	327	0	14,000	277,406	0	0		
Hillsdale Coll., Hillsdale	Baptist	1918	Grant O. Withey	85	1,710C	594	0	6,954	498,045	756,526	981,170		
Hopewell Coll., Holland	Ref. Ch.	1862	Irwin J. Lubbers	47	677C	262	1	32,288	349,465	1,026,989	1,463,882		
Jackson Junior Coll., Jackson	Municipal	1928	W. N. Atkinson	65	0	406	0	40,000	696,472	0	150,000 (6)		
Junior Coll. of Benton Harbor, Benton Harbor	Municipal	1946	C. G. Beckwith	15	185C	108	0	1,000	58,403 (6)	0	35,000		
Kalamazoo Coll., Kalamazoo	Baptist	1883	P. L. Thompson	49	666C	245	14	40,333	685,501	998,889	1,806,496		
Lawrence Inst. of Technology, Detroit	Private	1932	E. Geo. Lawrence	89	2,004C	1,081	0	4,400	972,560	0	695,301		
Marygrove Coll., Detroit	Catholic	1910	Sister M. Honora	91	770W	406	0	15,328	586,528	0	0		
Mercy Coll., Detroit	Catholic	1941	Sister M. F. Garvey	45	475W	10	0	14,460	0	0	0		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Michigan Coll. of Mining and Technology	Houghton	State	Grover C. Dillman	1885	179	2,132C	1,381	50,000	\$ 1,169,076	0	\$ 4,920,971
Michigan State Coll., East Lansing	State	1885	John A. Hannah	1885	698	14,307C	8,501	242,571	10,074,656	2,387,328	89,283,263
Michigan State Normal Coll., Ypsilanti	State	1849	Eugene B. Elliott	1885	224	2,533C	817	11	1,244,352	70,000	750,000
Muskegon Junior Coll., Muskegon	Municipal	1926	A. G. Umbreit	1887	21	397C	107	0	181,944	121,320	0
Nazareth Coll., Nazareth	State	1887	Sister Mary Kevin	1887	46	225W	0	1	58,450	0	0
Northern Michigan Coll. of Education, Marquette	State	1899	H. A. Tape	1887	74	1,002C	482	0	319,479	182,808	1,800,000
Olivet Coll., Olivet	State	1844	L. L. Ashby	1887	34	276C	103	0	3,000	880,023	880,023
Port Huron Junior Coll., Port Huron	Municipal	1923	J. H. McKenzie	1887	18	342C	81	0	1,705	128,318	327,413
Sacred Heart Seminary, Detroit	Catholic	1885	Henry E. Donnelly	1885	24	108M	0	24	280,724	84,204	1,274,315
Saint Mary's Coll., Orchard Lake	Catholic	1919	Edward J. Szumal	1887	10	346W	1	0	26,705	0	500,000
Sierra Heights Coll., Adrian	Catholic	1878	Mother Mary Gerald	1887	45	168C	0	0	6,000	0	500,000
Spring Arbor Junior College, Spring Arbor	Presbyterian	1889	J. F. Gregory	1887	12	127C	55	0	10,080	61,937	171,288
Suomi College, Hancock [J]	F. A. Lutheran	1877	Carl J. Tamminen (a)	1887	18	7,521C	5,650	221	1,400,900	3,173,303	10,271,350
Univ. of Detroit, Ann Arbor	Catholic	1817	William J. Miller	1887	167	21,191C	9,578	4,102	1,376,173	18,205,016	80,028,634
Univ. of Michigan, Ann Arbor	State	1868	A. G. Ruthven	1887	842	11,588C	6,285	1,069	319,834	7,880,874	10,986,022
Wayne Univ., Detroit	Municipal	1903	David D. Henry	1887	275	3,888C	1,523	171	1,780,647	0	7,900,926
Western Michigan Coll. of Education, Kalamazoo	State	1889	B. Christensen	1889	57	813C	302	0	25,027	308,322	428,915
Augsburg Coll. & Theol. Seminary, Minneapolis	Lutheran	1840	R. J. Meland	1885	18	198C	40	0	15,965	0	587,314
Austin Junior Coll., Austin	State	1911	E. C. Vineser	1885	12	258C	12	7	25,906	0	39,000
Bethany Lutheran Coll., Mankato [J]	Ev. Lutheran	1911	E. C. Vineser	1885	12	258C	12	7	25,906	0	39,000
Bethel Coll. & Seminary, St. Paul	Baptist	1898	J. E. Chalmers	1885	94	1,101C	165	0	26,000	32,629	82,629
Brainerd Junior Coll., Brainerd	Baptist	1898	J. E. Chalmers	1885	94	1,101C	165	0	26,000	32,629	82,629
Carleton Coll., Northfield	Private	1866	M. R. Gould	1885	95	1,190C	297	0	181,193	3,907,001	3,907,001
Coll. of Saint Benedict, St. Joseph	Catholic	1913	M. R. Gould	1885	42	227W	0	0	27,620	650,000	650,000
Coll. of St. Catherine, St. Paul	Catholic	1911	M. R. Gould	1885	88	787W	0	0	43,857	774,473	660,348
Coll. of St. Scholastica, Duluth	Private	1912	M. R. Gould	1885	9	410W	8	0	35,000	2,601,558	2,601,558
Coll. of Saint Teresa, Winona	Catholic	1909	M. R. Gould	1885	44	610W	8	0	35,000	2,601,558	2,601,558
Coll. of St. Thomas, St. Paul	Catholic	1885	Vincent J. Flynn	1885	54	610W	8	0	35,000	2,601,558	2,601,558
Concordia Coll., Moorhead	Lutheran	1881	J. N. Brown	1885	145	2,123M	1,268	0	1,256,786	330,348	2,063,359
Dr. Martin Luther Coll., New Ulm	Lutheran	1884	C. L. Schweppa	1885	65	1,177C	323	0	41,018	300,573	4,074,870
Duluth Junior Coll., Duluth	Municipal	1894	C. L. Schweppa	1885	15	97C	10	0	179,567	672,687	1,421,961
Evangelical Lutheran Coll., Duluth	Municipal	1927	D. G. Chadwick	1885	42	97C	0	0	168,727	0	383,397
Evangelical Lutheran Coll., Eveleth	Municipal	1923	D. G. Chadwick	1885	12	68C	24	0	16,280	35,000	100,000
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
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Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
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Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	23	0	12,000	67,115	1,404,133
Evangelical Lutheran Coll., St. Peter	Municipal	1918	E. T. Carlstedt	1885	24	119C	2				

Institution and Address	Control Affiliation	Year Found- ed	Chief Executive	Fac- ulty	Full- time Under- graduates	Grad- uate Stu- dents	1947-1948			Value of Plant	
							Volumes in Libraries	Total Income	Endowment		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
First Central Junior Coll., Deatur	State	1928	L. O. Todd	33	539C	191	0	6,700	\$ 99,000	\$	\$ 560,000
First Mississippi Junior Coll., Seaboard	State	1927	Cruce Stark	20	180C	51	0	5,000	.....	.....	500,000
First Presbyterian Coll., Guilford [J]	Private	1921	Richard G. Cox	32	.....	.....	.....	.....	.....	.....	614,844
First Junior Coll., Raymond	District	1917	G. M. McLendon	35	704C	300	0	6,000	303,651	.....	886,816
First Junior Coll., Goodman	District	1925	.....	21	.....	.....	.....	.....	.....	.....	900,000
First Junior Coll., Negro Teachers, Jackson	State	1877	Jacob L. Reddix	49	521C	425	0	10,826	517,611	.....	3,000,000
First Junior Coll., State	State	1927	James B. Young	59	730C	358	0	11,000	.....	.....	1,409,785
First Junior Coll., Meridian	Municipal	1937	H. M. Ivy	50	230C	76	0	30,000	388,922	1,184,265	1,600,000
First Junior Coll., Jackson	Methodist	1892	M. L. Smith	45	773C	277	0	38,000	400,000	.....	.....
First Junior Coll., Clinton	Baptist	1896	Dotson M. Nelson	56	964C	428	.....	.....	.....	.....	.....
First Junior Coll., Holly Springs [J]	C.M.E.	1905	W. M. Frazier	28	.....	105	.....	75,000	965,813 (b)	.....	2,084,595
First Junior Coll., Hattiesburg	State	1910	R. C. Cook	121	1,565C	876	152	81,940	3,570,479	14,387	7,333,046
First Junior Coll., State College	State	1878	Fred T. Mitchell	252	3,071C	2,352	93	75,000	1,101,423	.....	3,518,249
First Junior Coll., Columbus	State	1884	B. L. Parkinson	81	1,071W	1	0	.....	.....	.....	.....
First Junior Coll., Senatobia	District	1926	R. C. Pugh	16	.....	65	.....	.....	.....	.....	215,000
First Junior Coll., Poplarville	State	1922	R. D. McLendon	24	165C	186	.....	2,778	99,550	100,000	599,100
First Junior Coll., State	State	1926	A. L. May	23	283C	94	0	5,567	136,127	0	1,000,000
First Junior Coll., Methodist	Methodist	1866	L. M. McCoy	31	262C	169	0	7,000	163,098	0	.....
First Junior Coll., Edwards [J]	Disc. Christ.	1875	John Long	27	296C	81	0	14,747	.....	0	376,979
First Junior Coll., State	District	1918	C. H. Snell	24	294C	20	0	5,192	130,748	.....	350,000
First Junior Coll., Moorhead	District	1926	W. B. Horton	27	406C	200	0	4,000	.....	.....	496,188
First Junior Coll., Summit	State	1869	Harold C. Warren	35	338C	41	0	16,000	235,860	45,500	6,375,818
First Junior Coll., A.M.A.	State	1948	J. D. Williams	80	3,583C	1,708	151	160,956	2,546,502	756,568	500,000
First Junior Coll., University	Private	1858	Sinclair Daniel	284	1,20C	32	0	10,883	103,220	0	.....
First Junior Coll., Brookhaven	Private	1885	Charles T. Morgan	14	132C	32	0	6,030	120,661	.....	.....
First Junior Coll., Methodist	Methodist	1854	E. P. Puckett	16	775C	258	0	.....	.....	.....	.....
Central Coll., Fayette	Methodist	1854	E. P. Puckett	54	775C	258	0	61,000	626,153	1,027,500	1,900,000
Central Missouri State Coll., Warrensburg	State	1871	G. W. Diemer	122	1,536C	499	32	75,383	542,000	0	3,585,000
Christian Coll., Columbia [J]	Disc. Christ.	1851	James C. Miller	36	354W	0	0	15,000	414,768	111,883	1,120,934
Coll. of St. Teresa, Kansas City	Catholic	1867	Sister M. Jennings	40	167W	4	.....	19,794	.....	.....	714,739
Conception Seminary, Conception	Catholic	1867	Stephen Schaeffer	26	104M	34	33	70,000	.....	.....	.....
Concordia Theological Seminary, St. Louis	Lutheran	1839	J. J. Sleek	22	507M	27	94	45,000	.....	.....	2,233,381
Conservatory of Music of Kansas City, Kansas City	Private	1892	W. J. Larnesi	38	243C	148	9	3,900	176,252	.....	113,493
Cotter Junior Coll., Nevada	Private	1853	Marjorie H. Mitchell	30	438W	2	.....	8,457	235,432	58,358	489,028
Culver-Stratton Coll., Canton	Disc. Christ.	1873	J. E. H. McDonald	36	783C	152	0	32,000	311,346	755,368	770,975
Durand Coll., Nevada	Disc. Christ.	1873	J. E. H. McDonald	36	783C	332	0	30,000	232,201	1,007,295	772,110
Durand Coll., Springfield	Disc. Christ.	1873	J. E. H. McDonald	36	783C	332	0	34,558	101,230	785,728	1,100,749
Eden Theological Seminary, Webster Groves	Disc. Christ.	1873	J. E. H. McDonald	36	783C	332	0	34,558	101,230	785,728	1,100,749
Flat River Coll., Flat River	Local	1922	Carl L. Parker	19	.....	36	.....	8,808	111,447	21,197	317,959
Flat River Coll., Flat River	Baptist	1858	A. E. Prince	21	200C	63	0	24,538	.....	0	430,000
Hammer Coll., St. Louis	Municipal	1857	C. A. Naylor, Jr.	62	1,188C	175	0	7,239	94,902	0	.....
Jefferson City Junior Coll., Jefferson City	District	1926	Joe Nichols, Jr.	32	511C	50	0	9,145	.....	0	.....
Junior Coll. of Flat River, Flat River	Municipal	1922	Roy B. Allen	16	150C	41	0	30,000	.....	50,779	430,226
Junior Coll. of Kansas City, Kansas City	Private	1915	A. M. Swanson	61	1,533C	265	0	3,000	151,221	.....	1,750,226
Kansas City Coll. of Osteo. & Surg., Kansas City	Private	1916	J. M. Peach	52	222C	172	8	6,500	500,000	.....	.....
Kemper Military School, Booneville [J]	Private	1844	A. M. Hitch	50	500M	11	0	.....	.....	.....	672,204
Kemper Seminary, St. Louis	Catholic	1892	Joseph P. Donovan	35	316C	240	0	7,700	487,484	160,000	1,500,000
Kirksville Coll. of Osteo. and Surg., Kirksville	Private	1892	Morris Thompson	18	.....	10	.....	36,036	679,492	0	1,969,433
Lincoln Junior Coll., Kansas City [J]	Local	1886	Shuman McGuire	75	804C	292	11	31,300	747,480	3,052,786	1,051,823
Lincoln Univ., Jefferson City [J]	State	1827	John L. McCluer	54	485W	263	.....	28,500	335,598	611,572	200,000
Lindenwood Coll., St. Charles	Presbyterian	1889	J. Ray Cable	37	512C	15	0	9,243	13,000	0	5,000,000
Missouri Valley Coll., Marshall	Presbyterian	1927	Howard W. Munday	26	116C	14	0	16,071	787,457	0	2,110,000
Moberly Junior Coll., Moberly	Municipal	1929	E. Camp	12	62C	397	41	80,000	931,489	0	.....
Monett Junior Coll., Monett	State	1867	Walter H. Ryke	74	941C	.....	0	31,300	.....	0	.....
Northwest Missouri State Coll., Kirksville	State	1867	J. W. Jones	82	862C	299	0	.....	.....	0	.....
Northwest Missouri State Coll., Maryville	State	1905	.....	.....	.....	.....	0	.....	.....	0	.....

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Park College, Parkville, Mo.	Presbyterian	1875	J. L. Swingle	51	539C	108	0	43,771	\$ 488,690	\$ 1,952,292	\$ 1,829,443
Rockhurst Coll., Kansas City	Catholic	1910	Thomas M. Knapp	53	1,109C	126	0	20,000	80,000	0	1,146,000
St. Joseph Junior Coll., St. Joseph	Municipal	1915	Nelle Blum	22	535C	649	0	8,000	0	0	200,000
St. Louis Coll. of Phar. & Allied Sc., St. Louis	Private	1915	Robert L. Lund	33	0	251	0	0	0	0	0
St. Louis Inst. of Med., St. Louis	Private	1915	John P. Blake, Jr.	49	269C	87	0	5,827	4,373,539 (b)	3,898,236	7,025,714 (b)
St. Louis Univ., St. Louis	Catholic	1915	Patrick J. Holloran	1,104	7,655C	4,930	377	489,741	1,175,923	0	8,000,000
Southeast Missouri State Coll., Cape Girardeau	State	1915	W. W. Parker	69	1,455C	556	0	90,000	240,826	9,801	380,141
Southwest Baptist Coll., Bolivar	Baptist	1915	S. H. Jones	92	333C	64	0	8,300	773,133	0	3,200,000
Southwest Missouri State Coll., Springfield	State	1915	Roy Ellis	20	1,904C	637	0	74,610	3,118,846	250,846	6,889,924
St. Stephens Coll., Columbia	Baptist	1915	Homor P. Rainey	287	2,239W	1	0	19,241	0	660,000	5,889,924
St. Vincent Coll., Vincennes	Baptist	1915	M. Earle Collins	25	254C	102	0	19,241	0	0	2,851,287
Univ. of Kansas City	Private	1915	Clarence R. Decker	266	2,223C	0	274	1,625,205	14,023,607	2,634,895	24,928,649
Univ. of Missouri, Columbia and Rolla	State	1915	F. A. Middlebush	642	12,939C	8,156	1,041	566,337	8,721,285	25,723,493	16,480,237
Washington Coll., St. Louis	Private	1915	Arthur H. Compton	1,264	6,550C	3,832	946	490,834	0	0	0
Westminster Coll., Webster Groves	Catholic	1915	Geo. F. Donovan	69	342W	1	0	27,000	173,637	0	497,865
Wentworth Coll., Lexington	Private	1915	J. M. Sellers	19	150M	12	0	7,500	360,000	800,000	900,000
William Jewell Coll., Liberty	Presbyterian	1915	W. W. Hall, Jr.	39	608M	279	0	61,994	592,346	2,220,365	1,545,500
William Woods Coll., Fulton	Baptist	1915	Walter Pope Binns	40	768C	320	0	15,000	391,400	598,268	1,180,403
William Woods Coll., Fulton	Disc. Christ	1915	Harlie L. Smith	40	380W	0	0	0	0	0	0
Carroll Coll., Helena, Montana	Catholic	1909	Emmet J. Riley	29	394M	147	0	20,000	274,191	500,000	850,000
Eastern Montana State Normal School, Billings	State	1925	A. G. Peterson	27	319C	0	0	24,300	143,719 (b)	0	513,080
Great Falls Coll. of Education, Great Falls	Catholic	1925	J. J. Donovan	52	444C	134	0	23,300	487,000	800,000	1,640,000
Montana School of Mines, Butte	State	1893	Francis A. Thomson	28	338C	219	0	110,000	3,205,781	1,969,865	5,099,906
Montana State Coll., Bozeman	State	1893	R. R. Kenne	28	318C	1,154	94	93,273	1,925,000	0	868,408
Montana State Normal Coll., Dillon	State	1893	Rush Jordan	25	311C	86	0	0	2,002,561	882,000	4,204,000
Montana State Univ., Missoula	State	1893	James McCain	220	3,311C	1,895	91	264,113	304,694	402,104	0
Northern Montana Coll., Havre [J]	State	1893	H. V. Bogard	23	328C	75	0	21,000	292,505	1,262,637	857,423
Rocky Mountain Coll., Billings	C. M. P.	1893	Wm. Duncan Copeland	23	221C	112	0	27,300	0	0	0
Concordia Tchr. Coll., Seward	Lutheran	1894	A. O. Fuerbringer	18	182C	25	0	12,500	240,000	780,000	3,299,641
Creighton Univ., Omaha	Catholic	1878	William H. McCabe	356	2,679C	1,702	89	15,000	1,196,000	3,495,037	800,000
Dana Coll., Blair	Lutheran	1884	R. E. Morton	32	248C	81	11	15,000	217,764	168,605	500,000
Doane Coll., Crete	Conf.	1872	Harry M. Gage (a)	36	460C	146	0	32,198	290,861	1,340,000	0
Duquesne Coll., Omaha	Catholic	1881	Mother Helen Casey	21	250W	8	0	21,000	0	0	0
Fairbury Junior Coll., Fairbury	Lutheran	1883	Donald S. Overturn	15	150M	51	0	3,600	463,688	693,603	521,376
Hastings Coll., Hastings	Presbyterian	1883	William M. French	50	714C	272	0	8,000	75,477	1,216	335,402
Luther Coll., Wahoo [J]	Lutheran	1883	Floyd E. Lanerssen	16	114C	10	52	3,531	12,885	18,000	200,000
McCook Junior Coll., McCook	Municipal	1887	Ralph G. Lanerssen	36	1,36C	151	0	26,500	283,117	287,749	409,171
Midland Coll., Fremont	State	1897	W. P. Hieronymus	78	1,910C	112	112	30,000	1,388,356	110,192	1,276,000
Municipal Univ. of Omaha, Omaha	Municipal	1908	Philip Milo Ball	49	1,100C	812	2	38,123	566,887	3,000	1,006,136
Nebraska State Tchr. Coll., Chadron	State	1911	Wiley G. Brooks	61	1,100C	279	0	38,123	566,887	194	1,161,110
Nebraska State Tchr. Coll., Kearney	State	1905	Herbert L. Cushing	54	1,100C	129	0	54,000	282,506	0	994,000
Nebraska State Tchr. Coll., Peru	State	1910	W. L. Nicholas	61	1,100C	200	4	36,875	460,643	0	1,036,171
Nebraska Wesleyan Univ., Lincoln	Methodist	1887	Victor P. Morey	60	1,17C	249	0	37,944	452,504	906,494	0
Norfolk Junior Coll., Norfolk	District	1942	Allen P. Burkhardt	54	1,100C	43	0	3,353	40,000	0	0
Scottbluff Junior Coll., Scottbluff	Municipal	1933	Emory A. Austin	16	1,100C	283	0	2,400	68,159	0	1,035,774
Univ. of Nebraska, Lincoln	State	1891	Robert W. Woods	72	1,21C	4,900	680	41,000	892,191	1,151,219	10,998,800
Univ. of Nebraska, Lincoln	State	1899	R. G. Gustafson	468	10,011C	69	0	500,000	6,917,515	0	0
York Coll., York	U. Brethren	1890	D. E. Weidler	25	0	0	0	0	0	0	0
Univ. of Nevada, Reno	State	1874	John O. Moesley	140	1,090C	854	35	76,800	2,418,438	983,895	3,000,784
Colby Junior Coll., New Hampshire	Private	1837	H. Leslie Sawyer	40	403W	1	0	20,000	641,083	594,928	759,000
Dartmouth Coll., Hanover	Private	1769	John Sloan Dickey	340	2,099M	1,900	215	685,915	3,183,000	25,868,000	11,198,000
Keene Tchr. Coll., Keene	State	1909	Lloyd P. Young	20	408C	137	0	20,000	384,472	0	1,000,000
Mount Saint Mary Coll., Hooksett	Catholic	1934	Sister M. Mauritia	28	187W	3	0	1,300	125,000	0	250,000
New England Coll., Henniker	Private	1946	L. D. Cox	34	310C	250	0	8,000	18,000	0	1,000,000
Plymouth Teachers Coll., Plymouth	State	1870	Howard E. Jones	73	203C	73	0	18,248	253,689	0	0
Rivier Coll., Nashua	Catholic	1933	Er. M. St. Pascal	25	143W	3	0	13,248	0	0	0
St. Anselm's Coll., Manchester	Catholic	1889	Bertrand C. Dolan	45	049M	373	0	14,503	0	0	0

Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Full-time Undergraduates	Fall enrollment, 1948				1947-1948			Value of Plant (19)
						(7)	(8)	Volumes in Libraries	Total Income (10)	Endowment (11)	(12)		
Univ. of New Hampshire, Durham.....	State.....	1866	Harold W. Stoke.....	214	3,581C	1,820	.....	150,961	\$	1,472,500	\$	.....	.....
Bayonne Junior Coll., Bayonne.....	Local.....	1716	Walter F. Robinson.....	23	274C	53	0	3,000	850,000	2,000	0	1,100,000	.....
Bergen Junior Coll., Teaneck.....	Private.....	1933	C. J. Lital.....	85	1,080C	477	0	8,000	128,891	706,387	0	251,271	.....
Bloomfield Coll. & Theol. Seminary, Bloomfield.....	Presbyterian.....	1838	F. Schweitzer.....	141	1,880C	84	8	11,425	420,000	31,000	0	1,000,000	.....
Centenary Junior Coll., Hackensack.....	Catholic.....	1846	Edward W. Seay.....	27	368W	.....	.....	9,749	178,890	.....	0	6,000,000	.....
Coll. of Saint Elizabeth, Convent Station.....	Catholic.....	1849	Marie Joëlle Byrne.....	66	665W	.....	.....	32,000	178,000	.....	0	251,000	.....
Coll. of South Jersey, Camden.....	Private.....	1926	A. E. Armistage, Sr.....	33	326C	149	67	200,500	587,000	7,688,000	0	2,440,000	.....
Drew Univ., Madison.....	Private.....	1867	Fred G. Holloway.....	219	380C	200	262C	200,500	587,000	300,000	0	900,000	.....
Fairleigh Dickinson Junior Coll., Rutherford.....	Private.....	1911	Peter Sammartino.....	68	1,360C	515	0	30,284	329,546	.....	0	.....	.....
Georgian Court Coll., Lakewood.....	Catholic.....	1948	Sister Marie Anna.....	40	234W	1	0	30,000	.....	.....	0	.....	.....
Glasboro Junior Coll., Veterans, Glasboro.....	State.....	1746	Edgar F. Bruce.....	22	69M	.....	116M	.....	.....	.....	0	.....	.....
Institute for Advanced Study, Princeton.....	Catholic.....	1930	John F. O'Connell.....	19	172C	.....	.....	14,000	.....	0	0	.....	.....
Jersey City Junior Coll., Jersey City.....	Local.....	1916	Frank J. McManis.....	27	172C	.....	.....	5,068	192,000	.....	0	2,012,068	.....
John Marshall Junior Coll., Long Branch.....	Private.....	1931	Edward A. Markley.....	32	300C	975	0	20,648	1,341,658	106,010	0	1,250,000	.....
Monmouth Junior Coll., Long Branch.....	State.....	1841	R. W. Van Houten (a).....	157	470C	119	0	32,000	360,666	.....	0	2,000,000	.....
New Jersey State Coll., Newark.....	State.....	1925	Edgar F. Bunce.....	36	534C	128	0	24,305	363,894	51,200	0	2,122,500	.....
New Jersey State Coll., Jersey City.....	State.....	1929	Forrest A. Irwin.....	93	1,287C	431	442	52,316	585,531 (b)	.....	0	1,120,000	.....
New Jersey State Coll., Montclair.....	State.....	1908	H. A. Sprague.....	41	595C	125	45	40,000	323,436	.....	0	.....	.....
New Jersey State Coll., Newark.....	State.....	1853	John S. Dougall.....	41	576C	172	0	23,500	640,986	.....	0	3,500,000	.....
New Jersey State Coll., Paterson.....	State.....	1855	Charles W. Williams.....	84	902C	192	0	53,907	.....	.....	0	.....	.....
New Jersey State Coll., Trenton.....	State.....	1817	Roscoe L. West.....	25	325C	214	0	15,423	485,524	4,164,912	0	1,435,458	.....
Panzer Coll. of Phys., Ed. & Hygiene, East Orange.....	Private.....	1917	Margaret C. Brown.....	32	288C	150	88	221,185	8,207,685	44,887,698	0	777,000	.....
Princeton Theological Seminary, Princeton.....	Presbyterian.....	1713	John A. Mackay.....	550	2,774C	1,991	0	25,000	931,584	6,354,226	0	49,535,370	.....
Rider Coll., Trenton.....	Private.....	1766	Franklin W. Dadds.....	1,329	8,568C	4,065	519	500,000	12,203,626	.....	0	5,000,000	.....
Rutgers Univ., New Brunswick.....	State.....	1823	Robert C. Clougher.....	379	8,241M	4,475	482	24,000	1,406,000	205,108	0	3,986,000	.....
St. Peter's Coll., Jersey City.....	Catholic.....	1876	Vincent J. Hart.....	269	8,508M	4,475	710	31,866	2,136,000	2,265,000	0	100,000	.....
Seton Hall Coll., South Orange.....	Catholic.....	1879	James F. Kelley.....	120	1,507M	969	0	34,950	2,136,000	2,265,000	0	100,000	.....
Stevens Inst. of Technology, Hoboken.....	Private.....	1913	Harvey N. Davis.....	37	587C	348	0	7,500	250,000	256,612	0	517,000	.....
Union Junior Coll., Cranford.....	Private.....	1843	Kenneth C. Mackay.....	105	1,800C	915	0	22,000	910,119	.....	0	800,000	.....
Upsala Coll., East Orange.....	Lutheran.....	1843	Evelyn B. Lawson.....	47	390C	143	21	1,500	366,817	.....	0	500,000	.....
Westminster Choir Coll., Princeton.....	Private.....	1926	John F. Williamson.....	47	390C	143	21	1,500	366,817	.....	0	500,000	.....
Catholic Talm. Coll. of New Mexico, Albuquerque.....	Catholic.....	1834	Robert Wilken.....	63	1,140C	31	0	.....	328,765	31,135	0	1,400,000	.....
Eastern New Mexico Coll., Portales.....	State.....	1850	Floyd D. Golden.....	63	1,140C	227	0	2,211	2,208,095	589,882	0	2,421,228	.....
New Mexico Coll. of A. & M., State College.....	State.....	1893	John R. Nichols.....	200	1,240C	894	63	3,000	892,012	1,198,921	0	1,000,000	.....
New Mexico Highlands Univ., Las Vegas.....	State.....	1893	Edward Eyring.....	70	1,240C	294	63	.....	686,897	9,775	0	.....	.....
New Mexico Military Inst., Roswell (j).....	State.....	1859	Hugh M. Milton, II.....	29	1,240C	150	14	.....	290,737	.....	0	.....	.....
New Mexico School of Mines, Socorro.....	State.....	1859	E. J. Workman.....	28	1,240C	150	0	.....	575,695	.....	0	.....	.....
New Mexico State Teachers Coll., Silver City.....	State.....	1859	W. H. James.....	42	1,240C	174	0	.....	2,760,359	1,031,209	0	2,929,405	.....
Univ. of New Mexico, Albuquerque.....	State.....	1893	Tom L. Popejoy.....	324	4,140C	2,555	363	.....	1,541,544	529,616	0	1,000,000	.....
Adelphi Coll., Garden City.....	Private.....	1843	Paul D. Eddy.....	154	2,150C	800	41	45,358	1,541,544	1,074,000	0	1,538,976	.....
Alfred Univ., Alfred.....	St. & Private.....	1843	M. Ellis Drake (a).....	122	629C	440	33	63,113	826,616	.....	0	.....	.....
Associated Colleges of Upper N. Y., Plattsburg.....	Private.....	1843	Arthur C. Pope.....	43	1,140C	294	152	39,219	260,600	.....	0	.....	.....
Bard Coll., Annandale-on-Hudson.....	Private.....	1843	Frederick A. Morse.....	257	4,161C	3,058	0	40,218	505,033	174,056	0	.....	.....
Bennett Junior Coll., Millbrook.....	Private.....	1843	Edward C. Fuller.....	40	295C	71	0	60,660	505,033	.....	0	.....	.....
Biblical Seminary in New York, New York.....	Interdenom.....	1843	Courtesy Carroll.....	35	120C	21	157	26,280	354,101	.....	0	906,272	.....
Briarcliff Junior Coll., Briarcliff Manor.....	Private.....	1843	Dean Greer McKee.....	29	207C	21	0	9,708	676,318	26,286	0	7,736,040	.....
Brooklyn Coll., Brooklyn.....	Municipal.....	1843	Clara M. Tead.....	25	207C	21	0	172,423	.....	.....	0	.....	.....
Brooklyn Law School, Brooklyn.....	Private.....	1843	Harry D. Gidsonse.....	460	8,137C	2,694	922	.....	.....	.....	0	.....	.....
Catholic Univ., Buffalo.....	Catholic.....	1870	William B. Carswell.....	1,210	.....	1,210	286	44,124	869,315	140,000	0	2,650,000	.....
			R. W. Schouten.....	69	2,090C	1,368	286	.....	.....	.....	0	.....	.....

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Cathedral Coll. of the Immac. Conception, Brooklyn, Catholic	1875	Wm. B. McHugh	12	135W	M	0	0	6,775	221,538	\$	631,396
Cazenovia Junior Coll., Cazenovia, Private	1876	Isabel D. Plister	33	62W	W	0	0	31,500	7,000,000	5	13,700,000
Coll. of the City of New York, New York, Municipal	1878	Harry N. Wright	1,184	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Coll. of Technology, Potsdam, Private	1879	Jess H. Davis	1,184	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia-Rochester Divinity School, Rochester, Private	1880	W. E. Saunders	39	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., Hamilton, Private	1881	Everett Case	705	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Coll. of Mount Saint Vincent, New York, Catholic	1882	Sr. Catherine Marie	1,184	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Coll. of New Rochelle, New Rochelle, Catholic	1883	Mother Thomas Aquinas	1,184	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Coll. of Saint Rose, Albany, Catholic	1884	Edmund F. Gibbons	1,184	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Colleges of the Seneca, Geneva, Private	1885	Alan W. Brown	441	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1886	Dwight D. Eisenhower	3,942	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1887	Arthur J. Doeg	17	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1888	Gano Dunn	177	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1889	Edmund Ezra Day	1,414	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1890	Sister Jane Frances	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1891	Basel G. Bibby	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1892	W. S. A. Fort	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1893	Mortimer C. Ritter	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1894	John O. Cegreave	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1895	Robert L. Rannon	42	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1896	Frederick Rose	10	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1897	J. W. My Solms	62	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1898	Sister M. Dolores	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1899	Thomas B. Rudd	60	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1900	Henry J. Arnold	18	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1901	Stephen W. Paine	10	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1902	George N. Shuster	179	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1903	Luther Gulick	681	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1904	Arthur A. Loftus	885	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1905	Leonard B. Job	870	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1906	Louis Finkelstein	21	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1907	William Schuman	522	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1908	Katherine G. Bivley	4	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1909	Mother M. C. Bormeo	33	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1910	William J. Schlaerth	10	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1911	H. B. Knapp	385	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1912	J. W. Curran	282	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1913	T. W. Metcalfe	2,004	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1914	Brother B. Thomas	1,476	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1915	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1916	Eleanor M. O'Byrne	15	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1917	Bro. Louis Omer	5	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1918	M. T. Dalton	0	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1919	Edw. A. Wuenschel	0	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1920	Sr. O. Burswell, Jr.	80	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1921	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1922	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1923	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1924	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1925	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1926	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1927	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1928	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1929	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1930	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1931	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1932	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1933	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1934	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1935	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1936	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1937	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1938	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1939	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1940	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1941	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1942	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1943	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1944	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1945	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1946	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1947	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1948	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1949	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1950	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1951	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1952	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1953	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1954	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1955	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1956	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1957	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1958	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1959	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1960	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1961	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1962	John C. Borden	224	1,770M	W	3,532	1,250	1,000,000	1,000,000	1,000,000	1,000,000
Columbia Univ., New York, Private	1963	John C. Borden	224	1,770M	W	3,532					

Institution and Address (1)	Control or Affiliation (2)	Year Found- ed (3)	Chief Executive (4)	Fac- ulty (5)	Fall enrollment, 1948			1947-1948			
					Full- time Under- graduates (6)	Students under Veterans Programs (7)	Grad- uate Stu- dents (8)	Volumes in Libraries (9)	Total Income (10)	Endowment (11)	Value of Plant (12)
N.Y. State Techs. Coll., Brockport.	State.	1867	Donald M. Tower.	65	1,004C	285	64	28,000	.....	\$	\$ 1,417,400
N.Y. State Techs. Coll., Buffalo.	State.	1871	Harry W. Rockwell.	135	1,819C	383	198	37,172	0	0	2,000,000
N.Y. State Techs. Coll., Cortland.	State.	1866	Donna V. Smith.	101	1,160C	305	27	38,448	0	0	4,000,000
N.Y. State Techs. Coll., Fredonia.	State.	1866	Leslie R. Gregory.	79	660C	136	20	23,443	281,710	0	1,577,800
N.Y. State Techs. Coll., Genesee.	State.	1867	Wm. J. H. Terry.	75	522C	54	14	33,369	316,048	0	1,083,275
N.Y. State Techs. Coll., New Paltz.	State.	1866	H. W. J. H. Terry.	73	679C	55	.....	17,445	298,301	.....	1,380,725
N.Y. State Techs. Coll., Oswego.	State.	1869	Chas. W. Hunt.	66	4,886C	52	35	33,035	280,000	.....	1,380,725
N.Y. State Techs. Coll., Plattsburg.	State.	1861	Harvey A. Hunt.	104	4,096C	466	24	37,325	532,750	.....	1,380,725
N.Y. State Techs. Coll., Potsdam.	State.	1869	Chas. W. Hunt.	70	647C	74	24	15,947	350,982	0	1,000,000
N.Y. State Univ., New York.	Private.	1816	Frederick W. Crumb.	75	635C	60	13,021	790,968	19,322,037	11,555,552	15,664,877
Niagara Univ., Niagara University.	Catholic.	1864	John W. Warburton Chase.	3,321	2,606C	21,930	.....	66,000	.....	.....	.....
Notre Dame Coll., of Staten Island, Staten Island.	Catholic.	1881	John W. Warburton Chase.	133	1,606C	881	.....	11,939	.....	.....	.....
Pace Inst., New York.	Private.	1866	John W. Warburton Chase.	125	405W	0	.....	11,000	.....	.....	.....
Packard School, New York [J].	Private.	1906	Robert C. Fiege.	182	4,506C	4,446	0	11,000	.....	.....	.....
Packer Collegiate Inst., Brooklyn [J].	Private.	1858	Levi A. Fiege.	26	306C	264	0	3,200	316,000	159,367	375,000
Parsons School of Design, New York.	Private.	1845	Paul Day Traux.	20	1,077C	480	0	12,478	77,278	0	452,338
Paul Smith's Coll., Paul Smiths.	Private.	1909	Paul Day Traux.	26	909W	0	0	2,400	480,000	0	74,000
Pelham Coll., Bronx, Brooklyn, Brooklyn.	Private.	1897	Harry S. Rogers.	172	2,080C	127	1,849	39,046	426,849	2,803,818	817,344
Pratt Inst., Bronx, Brooklyn, Brooklyn.	Private.	1854	Charles Pratt.	315	1,989M	1,223	0	146,000	1,912,799	9,737,046	2,847,418
Queens Coll., of the City of New York, Flushing.	Private.	1857	Margaret V. Kisly (e).	216	2,795C	330	97	69,900	1,675,672	17,045	2,817,600
Rensselaer Polytechnic Inst., Troy.	Private.	1827	Marston W. Houston.	396	4,032C	2,741	250	43,870	4,100,000	82,000	8,800,000
Roberts Junior Coll., North Chili.	F. Methodist.	1866	Marston W. Houston.	23	1,500C	40	0	8,437	223,402	0	485,004
Rochester Business Inst., Rochester [J].	Private.	1863	E. W. Engel, Jr.	40	834C	380	0	4,000	1,392,101	3,656,924	3,200,000
Rochester Inst. of Technology, Rochester.	Private.	1829	Mark E. Engman.	185	1,699C	974	0	13,364	742,206	1,305,918	1,493,918
Russell Sage Coll., Troy.	Catholic.	1916	Mark E. Engman.	107	2,163C	1,477	0	25,000	.....	.....	.....
St. Bernardine of Siena Coll., Loudonville.	Catholic.	1937	J. F. Goggin.	95	1,736C	1,097	190	94,000	202,711	113,195	2,945,000
St. Bonaventure Coll. & Seminary, St. Bonaventure.	Catholic.	1859	Thomas Plasmann.	55	828M	3,944	248	24,000	385,000	500,000	3,032,000
St. Francis Coll., Brooklyn.	Catholic.	1868	Brother Columba.	435	2,214C	3,944	248	77,804	281,135	24,759	867,005
St. John's Coll., for Women, Brooklyn.	Catholic.	1870	John A. Flynn.	225	4,600W	582	118	28,264	1,287,761	2,000,000	3,070,892
St. Joseph's Seminary & Coll., Yonkers.	Catholic.	1839	John M. Fillion.	65	1,429C	582	0	91,000	1,580,266	552,808	2,023,892
St. Lawrence Univ., Canton.	Private.	1856	Eugene G. Bewkes.	99	338C	27	0	51,750	1,287,761	2,000,000	3,070,892
Sarah Lawrence Coll., Bronxville.	Private.	1926	Harold Taylor.	69	1,380C	28	1,032	406,684	2,240,208	875,469	2,863,894
Schidmore Coll., Saratoga Springs.	Private.	1911	Henry T. Moore.	99	1,130C	885	16	140,000	20,700,000	7,247,904	22,300,000
Syracuse Univ., Syracuse.	Private.	1870	Wm. Pearson Tolley.	1,518	14,945C	9,120	458	340,000	1,500,000	8,258,500	5,088,049
Union Coll., Schenectady.	Private.	1795	Carter Davidson.	126	1,541M	885	0	32,000	891,505	0	12,500,000
Union Theological Seminary, New York.	Interdenom.	1836	Henry P. Van Dusen.	70	1,541M	885	0	32,000	891,505	0	12,500,000
U.S. Merchant Marine Academy, Kings Point.	Federal.	1902	Gordon McLintock.	265	1,526M	0	0	131,000	3,247,015	7,034,189	7,594,941
U.S. Military Academy, West Point.	Federal.	1802	Maxwell D. Taylor.	265	2,462M	6,215	432	234,910	11,657,478	60,007,875	34,627,434
Univ. of Buffalo, Buffalo.	Private.	1846	Samuel P. Capen.	383	6,082C	2,633	624	263,000	3,060,130(b)	13,526,522(b)	1,263,361
Univ. of Rochester, Rochester.	Private.	1850	Alan Valentine.	156	3,369C	29	13	40,000(b)	661,417	419,890	1,087,257
Vassar Coll., Poughkeepsie.	Private.	1861	Sarah G. Langsam.	60	978C	518	0	105,000	634,624	1,887,257	4,231,577
Wagner Memorial Lutheran Coll., Staten Island.	U. Lutheran.	1883	Walter C. Deyo.	37	390C	200	0	105,000	1,000,000	1,500,000	3,000,000
Walter Harvey Junior Coll., New York.	Y.M.C.A.	1946	Richard L. Greene.	40	305W	30	200	175,000	1,000,000	1,500,000	3,000,000
Wells Coll., Aurora.	Y.M.C.A.	1868	Richard L. Greene.	47	305W	30	200	175,000	1,000,000	1,500,000	3,000,000
Yeshiva Univ., New York.	Jewish.	1897	Samuel Belkin.	150	1,800M	1,458	36	35,000	1,600,000	.....	2,500,000
Ag. & Tech. Coll. of North Carolina, Greensboro [M].	State.	1891	F. D. Bluford.	136	2,742C	1,458	36	35,000	1,600,000	.....	2,500,000
Appalachian State Techs. Coll., Boone.	State.	1903	B. B. Dougherty.	55	945C	318	0	37,000	.....	0	63,314
Asheville-Biltmore Coll., Asheville [J].	Municipal.	1927	Glenn L. Bushey.	86	266C	86	0	5,500	.....	.....	554,165
Atlantic Christian Coll., Wilson.	Disc. Christ.	1902	H. S. Hilley.	30	507C	195	.....	16,000	179,919	365,541	512,500
Barber-Scott Coll., Concord [M].	Presbyterian.	1867	L. S. Cozart.	21	160W	60	.....	12,578	134,000	800,000	625,000
Belmont Abbey Coll., Belmont [J].	Catholic.	1878	Vincent G. Taylor.	33	285M	60	0	50,000	398,694	1,078,651	1,617,521
Bennett Coll., Greensboro [M].	Methodist.	1873	David D. Jones.	68	463W	0	0	24,790	.....	.....	.....

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Brevard Coll., Brevard [J].....	Methodist.....	1931	Eugene J. Coltrane.....	408C	146 ^a	0	14,000	\$ 225,000	\$ 500,000	\$ 650,000	
Campbell Coll., Buies Creek [J].....	Baptist.....	1921	Leslie H. Campbell.....	478C	148	...	11,152	378,396	678,679	424,380	
Catawba Coll., Salisbury.....	Ev. & Ref.....	1831	A. R. Keppel.....	830C	396	...	29,385	596,800	1,100,000	1,100,000	
Charlotte College Center, Charlotte [J].....	State.....	1916	Bonnie E. Cone.....	222C	137	0	10,000	62,236	0	0	
Davidson Coll., Davidson.....	Presbyterian.....	1836	John R. Cunningham.....	949M	277	0	10,000	880,984	5,275,809	2,657,886	
Duke Univ., Durham.....	Private.....	1835	A. Hollis Edens.....	1835	2,026	1,341	898,444	4,358,761	49,952,461	34,609,943	
East Carolina Tehrs. Coll., Greenville.....	State.....	1907	J. D. Messick.....	1,223C	491	46	67,022	1,003,478	0	0	
Elizabeth City St. Tehrs. Coll., Elizabeth City [M].....	State.....	1851	S. D. Williams.....	475C	48	...	37,000	...	372,477	1,500,000	
Elon Coll., Elon College.....	Cong.....	1850	Leon E. Smith.....	792C	412	125	17,000	80,423	0	1,434,168	
Fayetteville State Tehrs. Coll., Fayetteville [M].....	State.....	1877	P. W. Seabrook.....	519C	66	0	24,364	165,745	0	837,294	
Flora Macdonald Coll., Red Springs.....	Presbyterian.....	1846	Halbert M. Jones (a).....	263W	1	0	16,095	129,704	275,225	327,569	
Gardner-Webb Junior Coll., Rolling Springs.....	Baptist.....	1905	P. L. Elliott.....	386C	123	0	7,461	182,310	180,365	651,866	
Greensboro Coll., Greensboro.....	Methodist.....	1834	Luther L. Gobel.....	333W	2	0	29,970	681,428	631,428	623,028	
Guilford Coll., Guilford College.....	Soc. Friends.....	1847	Clyde A. Milner.....	594C	2	0	30,000	368,374	780,553	964,080	
High Point Coll., High Point.....	Methodist.....	1912	G. I. Humphreys.....	791C	34	...	16,485	468,973	410,212	964,080	
Johnson C. Smith Univ., Charlotte [M].....	Presbyterian.....	1867	Hardy Liston.....	697C	221	11	32,000	432,347	2,000,000	1,347,721	
Lees-McKae Coll., Banner Elk [J].....	Presbyterian.....	1900	W. C. Tate.....	243C	3	...	18,000	500,000	700,000	1,200,000	
Lenoir Rhyne Coll., Hickory.....	Lutheran.....	1891	P. E. Monroe.....	774C	314	0	28,000	231,281	46,500	900,000	
Livingstone Coll., Salisbury [M].....	A. M. E. Zion.....	1885	William J. Trent.....	362C	74	0	23,400	129,360	129,360	923,867	
Louisburg Coll., Salisbury [J].....	Methodist.....	1857	Samuel M. Holton.....	250C	840	...	37,369	335,783	183,987	1,228,847	
Mars Hill Coll., Mars Hill [J].....	Baptist.....	1846	Hoyt Blackwell.....	931C	471	0	3,504	342,742 (b)	153,669	1,132,845	
Meredith Coll., Raleigh.....	Baptist.....	1846	Carlyle Campbell.....	906W	3	...	7,833	447,888	600,190	1,425,420	
Mitchell College, Greenville [J].....	Presbyterian.....	1846	John Montgomery.....	974C	30	...	7,838	83,199	...	...
North Carolina State Coll. of Ag. & Eng., Raleigh.....	State.....	1910	Alfonso Elder.....	972C	34	...	53,088	750,508	...	1,729,648	
Peace Coll., Raleigh [J].....	State.....	1889	J. W. Harrelson.....	229C	215	0	6,500	22,950	10,000,000	450,000	
Pembroke State Coll. for Indians, Pembroke.....	State.....	1872	William C. Pressly.....	222W	0	0	10,000	166,410	208,940	231,223	
Pfeiffer Junior Coll., Nissenheimer.....	Methodist.....	1890	Ralph D. Wellons.....	116C	41	0	7,000	210,100	380,000	235,000	
Presbyterian Junior Coll., Maxton.....	Presbyterian.....	1857	C. M. Waggoner.....	300C	30	0	10,000	238,490	101,665	129,034	
Queens Coll., Charlotte.....	Presbyterian.....	1867	H. B. Blakey.....	384C	24	0	25,000	367,000	580,000	1,350,000	
St. Augustine's Coll., Raleigh [M].....	P. E.....	1813	Harold L. Tygg.....	437C	86	0	17,450	208,307	203,464	680,314	
Salem Coll., Winston-Salem.....	Methodist.....	1773	Richard G. Stone.....	437C	191	0	11,085	245,980	914,622	1,266,553	
Shaw Univ., Raleigh [M].....	Moravian.....	1895	H. E. Rondthaler.....	908W	207	0	33,791	372,391	914,622	1,266,553	
Univ. of North Carolina, Chapel Hill.....	Baptist.....	1895	Robert P. Daniel.....	908C	17	18	16,000	511,266	344,387	950,858	
Wake Forest Coll., Wake Forest.....	State.....	1789	Frank P. Graham.....	7,603C	4,331	877	514,797	3,336,868	3,921,810	17,779,023	
Western Carolina Tehrs. Coll., Cullowhee.....	Baptist.....	1831	Thurman Kitchin.....	1,093C	1,079	6	104,339	1,619,033	4,535,860	3,642,765	
Winnington Coll., Winnington [J].....	State.....	1889	W. E. Bird.....	550C	250	0	23,724	475,236	0	1,725,422	
Winthrop Coll., Winthrop.....	County.....	1917	T. T. Hamilton, Jr.....	215C	178	0	4,339	67,260	0	...	
Winston-Salem Coll., Winston-Salem [M].....	State.....	1896	F. C. Burns.....	...	81	...	26,516	273,589	100,000	1,113,532	
Winston-Salem Tehrs. Coll., Winston-Salem [M].....	Baptist.....	1892	C. L. Atkins.....	472C	84	9	120,000	2,034,027	0	7,850,000	
Woman's Coll. of the Univ. of N. C., Greensboro.....	State.....	1891	W. C. Jackson.....	2,061W	26	...	...	...	...	...
North Dakota											
Bismarck Junior Coll., Bismarck.....	Local.....	1939	Walter J. Swenson.....	...	69
Devils Lake Junior Coll., Devils Lake.....	Local.....	1941	F. H. Gillikabd.....	...	12
Jamestown Coll., Jamestown.....	Presbyterian.....	1883	Howard J. Bell, Jr.....	1,13C	133	0	24,000	321,233	1,299,773	933,286	
North Dakota Agricultural Coll., State College.....	State.....	1889	Fred Samuel Hultz.....	2,113C	1,176	42	68,000	2,689,436	1,850,166	4,606,667	
North Dakota State School of Forestry, Bortoneau.....	State.....	1889	C. N. Nelson.....	101C	37	0	5,500	30,000	0	223,000	
North Dakota State School of Science, Wahpeton.....	State.....	1889	E. F. Riley.....	769C	345	0	11,626	489,369	0	1,013,393	
State Normal and Industrial Coll., Ellendale.....	State.....	1889	J. C. McMillan.....	2,29C	62	0	18,000	192,352	...	700,000	
State Tehrs. Coll., Dickinson.....	State.....	1918	Chas. E. Scott.....	267C	86	0	22,600	200,291	11,540	760,504	
State Tehrs. Coll., Mayville.....	State.....	1889	Casper Lura.....	...	85	0	23,500	802,531	0	1,068,570	
State Tehrs. Coll., Minot.....	State.....	1913	C. C. Swain.....	789C	224	0	30,710	841,742	670,000	1,305,000	
State Tehrs. Coll., Valley City.....	State.....	1890	R. L. Loken.....	1,89C	182	0	183,000	1,201,784	0	4,342,500	
Univ. of North Dakota, Grand Forks.....	State.....	1883	John C. West.....	2,633C	1,377	138	74,240	1,257,588	2,738,000	2,334,322	
Antioch Coll., Yellow Springs.....	Private.....	1853	Douglas McGregor.....	1,139C	353	1	24,000	320,691	418,869	1,635,000	
Ashland Coll., Ashland.....	Ch. Brethren.....	1878	Glen L. Clayton.....	578C	256	0	52,000	2,470,082	2,003,430	...	
Baldwin-Wallace Coll., Berea.....	Methodist.....	1845	A. Riemsneider.....	1,990C	781	0	22,000	170,000	360,148	148,400	
Buffton Coll., Buffton.....	Mennonite.....	1900	Lloyd L. Ramseyer.....	...	90	0	21,000	148,400	...	...
Bonebrake Theological Seminary, Dayton.....	Ev. U. Breth.....	1871	Walter N. Roberts.....	...	78	...	64,000	2,805,079 (b)	677,791	1,406,300	
Bowling Green State Univ., Bowling Green.....	State.....	1874	F. D. Prout.....	4,70C	1,656	115	54,100	1,207,330	0	...	
Bowling Green State Univ., Bowling Green.....	State.....	1874	F. D. Prout.....	4,70C	1,656	115	54,100	1,207,330	0	...	
Capital Univ., Columbus.....	Lutheran.....	1850	Harold L. Yochum.....	1,077C	283	106	54,100	1,207,330	0	...	

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								Volumes in Libraries (9)	Total Income (10)	Endowment (11)	
Casa Inst. of Technology, Cleveland.....	Private.....	1880	T. Keith Glennan.....	133	1,661C	1,085	185	38,112	\$ 1,054,920	\$ 5,370,000	\$ 3,960,000
Cedarville Coll., Cedarville.....	Private.....	1894	I. D. Vayhinger.....	15	C	182	70	.....	.....	.....	.....
Cincinnati Coll. of Pharmacy.....	Private.....	1850	John S. Reafer.....	15	C	182	70	.....	.....	.....	.....
Cincinnati Conserv. of Music, Cincinnati.....	Private.....	1867	Thomas Hagan.....	326	575C	326	53	1,600	70,338	0	206,600
Cleveland Bible Coll., Cleveland.....	Soc. Friends.....	1892	G. Arnold Hodgin.....	16	207C	45	0	8,528	162,074	.....	(as)
Cleveland Univ. of Art, Cleveland.....	Private.....	1920	Beryl Rubinstein.....	47	138C	88	3	.....	.....	.....	.....
Cleveland Univ. of Music, Cleveland.....	Private.....	1897	Lee E. Steel.....	48	C	430	0	39,798	.....	.....	.....
Coll. of Mount St. Joseph, Mt. St. Joseph.....	Catholic.....	1852	Fr. Maria Corcoran.....	48	103W	5	17	5,000	.....	.....	1,875,000
Coll. of Mount St. Joseph, Cincinnati.....	Private.....	1878	Frederick Smith.....	75	350C	243	0	30,000	.....	.....	2,642,056
Coll. of St. Mary of the Springs, Columbus.....	Private.....	1925	Fr. M. A. Conley.....	44	212W	2	0	103,254	.....	.....	1,392,570
Coll. of Western Wesleyan.....	Presbyterian.....	1866	Howard F. Lowry.....	81	127C	335	0	25,000	.....	.....	3,640,589
Denison Univ., Granville.....	Cong.....	1885	H. D. Hopkins.....	38	141C	190	0	116,294	.....	.....	2,090,317
Denison Univ., Granville.....	Baptist.....	1831	Kenneth I. Brown.....	80	146C	388	0	33,000	.....	.....	538,358
Findlay Coll., Findlay.....	Y. M. C. A.....	1881	Edward Hodnett.....	382	500C	3,105	10	218,294	.....	.....	400,000
Franklin Univ., Columbus.....	Church of God.....	1882	H. Clifford Fox.....	30	313C	149	0	16,000	.....	.....	2,267,745
Franklin Univ., Columbus.....	Y. M. C. A.....	1902	N. L. Gates.....	70	140C	1,500	75	125,000	.....	.....	1,035,913
Heidelberg Coll., Tiffin.....	Jewish.....	1875	Nelson Chuck.....	20	111M	14	0	36,000	.....	.....	2,576,269
Hiram Coll., Hiram.....	Ev. & Ref.....	1850	Paul H. Fall.....	41	113C	252	25	571,883	.....	.....	2,133,166
John Carroll Univ., University Heights.....	Catholic.....	1886	George A. Bowman.....	329	2,873C	2,247	0	50,000	.....	.....	1,326,992
Kent State Univ., Kent.....	State.....	1910	F. E. Wolfe.....	97	5,703C	3,210	115	151,617	.....	.....	1,003,386
Kenyon Coll., Gambier.....	Private.....	1824	George A. Bowman.....	61	103W	238	0	4,391,000	.....	.....	0
Lake Erie Coll., Painesville.....	Private.....	1856	Helen D. Bragdon.....	30	103W	731	0	36,656	.....	.....	2,676,269
Marietta Coll., Marietta.....	Private.....	1835	W. Bay Irvine.....	71	103W	731	0	131,882	.....	.....	2,133,166
Mary Mansel Coll., Toledo.....	Catholic.....	1922	Sister M. Catherine.....	42	103W	731	0	762,894	.....	.....	1,732,022
Miami Univ., Oxford.....	State.....	1809	Ernest H. Hahne.....	350	5,342C	1,317	75	211,000	.....	.....	10,329,659
Mt. St. Mary of the West, Cincinnati.....	Catholic.....	1816	James W. O'Brien.....	52	507C	13	0	77,000	.....	.....	1,357,207
Mount Union Coll., Alliance.....	Methodist.....	1817	Charles B. Ketcham.....	76	103C	405	0	33,930	.....	.....	1,902,175
Muskingum Coll., New Concord.....	U. Presb.....	1822	Robert N. Montgomery.....	35	103C	300	0	40,000	.....	.....	2,000,000
Notre Dame Coll., South Euclid.....	Catholic.....	1822	Mother Mary Agnes.....	166	2,23W	1	165	25,268	.....	.....	7,548,441
Oberlin Coll., Oberlin.....	Private.....	1833	William E. Stevenson.....	166	2,21C	541	2	472,031	.....	.....	23,668,918
Oberlin School of Commerce, Oberlin [J].....	Private.....	1815	J. H. Kutscher.....	6	120C	786	0	38,000	.....	.....	1,252,822
Ohio State Univ., Columbus.....	State.....	1871	Robert O. McClure.....	40	1,200C	12,077	2,691	37,610	.....	.....	34,806,064
Ohio State Univ., Athens.....	State.....	1873	Howard I. Bevis.....	2,701	1,200C	2,798	116	770,000	.....	.....	8,398,357
Ohio Wesleyan Univ., Delaware.....	Methodist.....	1812	John Callahan Baker.....	131	1,200C	572	24	171,138	.....	.....	4,686,385
Otterbein Coll., Westerville.....	Methodist.....	1817	Arthur S. Fleming.....	131	1,200C	572	24	171,138	.....	.....	3,492,021
Our Lady of Cincinnati Coll., Cincinnati.....	Ev. U. Breth.....	1817	J. Gordon Howard.....	82	800C	318	0	37,000	.....	.....	934,587
Rio Grande Coll., Rio Grande.....	Catholic.....	1815	Fr. Marie Pierre Koch.....	10	1,200C	75	0	11,000	.....	.....	70,000
St. Charles Seminary, Carthage.....	Baptist.....	1816	F. W. McMerritt.....	15	1,200C	75	0	11,000	.....	.....	150,000
St. John Coll., Cleveland.....	Catholic.....	1817	Leonel E. Fire.....	10	1,200C	75	0	11,000	.....	.....	104,000
Schaeffer Coll. of Rel. & Social Work, Cleveland.....	Catholic.....	1813	Robert B. Navin.....	72	1,200C	875	0	71,000	.....	.....	0
Schaeffer Coll., Dayton [J].....	Cong.....	1813	Robert B. Navin.....	72	1,200C	875	0	71,000	.....	.....	0
Tiffin Univ., Tiffin [J].....	Y. M. C. A.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	393,789
Univ. of Akron, Akron.....	Private.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	1,960,000
Univ. of Cincinnati, Cincinnati.....	Municipal.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	50,000
Univ. of Dayton, Dayton.....	Municipal.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	2,770,513
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	12,136,452
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	2,099,107
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	4,418,374
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	127,504
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	2,858,523
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	11,990,000
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	1,113,127
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	504,730
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	427,889
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Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	410,402
Univ. of Toledo, Toledo.....	Catholic.....	1813	C. F. Michaelides.....	23	1,200C	260	56	1,000	.....	.....	427,889
Univ. of Toledo, Toledo.....	Catholic.....										

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Wittenberg Coll., Springfield.....	U. Lutheran.....	1845	Rees Edgar Tulloss.....	1,452C	13	609	0	80,000	\$ 1,172,899	\$2,481,425	\$ 2,598,132
Xavier Univ., Cincinnati.....	Catholic.....	1881	Celestin J. Steiner.....	1,924C	171	971	125	88,922	1,427,951	200,591	1,744,448
Youngstown Coll., Youngstown.....	Private.....	1908	H. W. Jones.....	3,145C	220	2,084	0	43,701	.....	.....	1,002,000
Oklahoma											
Altus Coll., Altus [J].....	Municipal.....	1889	A. G. Steele.....	.....C	10	.....	.....	.....	.....	.....	.....
Bacone Coll., Bacone [J].....	Private.....	1890	Francis W. Thompson.....	170C	17	51	.....	11,055	147,880	367,843	688,429
Bethany Coll., Bethany.....	Presbyterian.....	1891	Roy H. Cantrell.....	739C	45	234	0	24	340,619	.....	540,560
Cameron State Agricultural Coll., Lawton [J].....	Private.....	1892	C. Vernon Howell.....	601C	34	199	0	10,080	.....	0	520,118
Catholic Coll. of Oklahoma, Guthrie.....	Catholic.....	1893	Mother M. R. Vessels.....	.....W	22	.....	.....	.....	.....	.....	.....
Central State Coll., Edmond.....	Private.....	1894	R. R. Robinson.....	.....C	67	403	0	29,931	.....	.....	1,087,541
Connors State Ag. Coll., Warner [J].....	Private.....	1895	Jacob Johnson.....	275C	80	80	0	4,000	.....	0	.....
East Central State Coll., Ada.....	Private.....	1896	Chas. F. Spencer (a).....	1,125C	85	454	0	35,608	.....	0	1,750,000
Eastern Oklahoma A. & M. Coll., Wilburton [J].....	Private.....	1897	C. C. Dunlap.....	380C	24	151	0	5,572	.....	0	7,702,350
Langston Univ., Langston [J].....	Private.....	1898	G. Lamar Harrison.....	627C	68	327	0	23,000	.....	0	12,517,762
Lurray State School of Agriculture, Tishomingo [J].....	Private.....	1899	C. J. Hall (a).....	330C	23	136	0	7,500	.....	0	1,151,069
Muskogee Junior Coll., Muskogee.....	Municipal.....	1899	Bessie M. Huff.....	.....C	12	86	.....	.....	.....	.....	.....
Northeastern Oklahoma A. & M. Coll., Miami [J].....	Private.....	1899	Bruce G. Carter.....	639C	35	265	0	8,000	332,771	.....	658,967
Northern Oklahoma Junior Coll., Muskogee.....	Private.....	1899	John A. Gaudin.....	1,090C	40	460	0	46,102	656,658	0	1,208,822
Northern Oklahoma Junior Coll., Tonkawa.....	Private.....	1899	John A. Brown.....	598C	41	87	0	97,364	82,516	0	1,851,853
Northern Oklahoma Junior Coll., Tulsa.....	Private.....	1899	Stalin C. Brentnall.....	.....C	43	.....	.....	216,354	968,963	0	1,267,989
Oklahoma A. & M. Coll., Stillwater.....	Private.....	1899	John G. Benedict.....	10,922C	800	6,302	582	216,354	12,197,992	5,076,535	2,262,246
Oklahoma Baptist Coll., Oklahoma City.....	Baptist.....	1899	John Wesley Raley.....	1,324C	61	473	0	25,000	1,310,915	42,070	.....
Oklahoma City Coll., Oklahoma City.....	Private.....	1904	F. Bert Grubb.....	.....C	141	.....	.....	.....	.....	.....	.....
Oklahoma City Coll., Oklahoma City.....	Methodist.....	1904	Clusitor Q. Smith.....	1,712C	60	1,133	34	30,503	1,128,278	578,981	2,340,100
Oklahoma Coll. for Women, Chickasha.....	Private.....	1908	Dan Proster.....	683W	40	.....	.....	40,000	592,762	0	3,000,000
Panhandle A. & M. Coll., Goodwell.....	Private.....	1909	Marvin E. McKee.....	440C	28	134	0	15,000	450,000	0	986,357
Pentecostal Holiness Junior Coll., Oklahoma City.....	Private.....	1946	R. O. Corvin.....	125C	15	24	24	3,249	115,000	922,305	1,410,327
Phillips Univ., Enid.....	Private.....	1907	Eugene S. Briggs.....	997C	27	321	152	48,146	688,357	.....	.....
Poteau Junior Coll., Poteau.....	Private.....	1943	E. L. Costner.....	.....C	10	.....	.....	.....	.....	.....	.....
Seminole Junior Coll., Seminole.....	Private.....	1931	O. D. Johns.....	.....C	11	25	.....	.....	.....	.....	.....
Southeastern State Coll., Durant.....	Private.....	1909	T. T. Montgomery.....	1,123C	476	476	8	38,123	402,284	0	1,372,623
Southeastern Inst. of Technology, Weatherford.....	Private.....	1901	R. H. Burton.....	996C	57	483	0	37,924	375,762	0	1,025,225
Spartan Coll. of Aeronautical Engineering, Tulsa [J].....	Private.....	1943	W. D. Trulock.....	141C	16	122	0	853	151,737	0	85,000
Univ. of Oklahoma, Norman and Oklahoma City.....	Private.....	1890	George Lynn Cross.....	6,325	880	6,325	880	285,500	11,633,546	5,931,737	15,415,204
Univ. of Tulsa, Tulsa.....	Private.....	1894	C. I. Pontius.....	3,017C	1,15	1,775	85	120,313	1,686,743	1,427,404	1,990,969
Oregon											
Cascade Coll., Portland.....	Private.....	1918	C. J. Pike.....	208C	57	57	0	7,000	139,467	63,750	434,474
Eastern Oregon Coll. of Education, La Grande.....	State.....	1929	Ruben J. Maaske.....	538C	40	200	0	25,680	286,541	1,000	1,123,594
Lewis and Clark Coll., Portland.....	Presbyterian.....	1867	Morgan S. Odell.....	1,233C	94	753	27	325,000	436,000	325,000	1,125,000
Linfield Coll., McMinnville.....	Baptist.....	1858	H. L. Dillin.....	825C	50	346	18	38,000	526,476	929,984	1,285,855
Marylhurst Coll., Marylhurst.....	Catholic.....	1930	St. M. R. Augusta.....	225W	37	6	4	22,000	.....	.....	522,000
Mt. Angel Coll., Mt. Angel.....	Catholic.....	1889	Thomas Meier.....	.....C	15	.....	.....	.....	.....	.....	.....
Multnomah Coll., Portland.....	Private.....	1897	Edward L. Clark.....	316C	83	197	0	7,500	400,000	50,000	.....
Northwestern Coll. of Law, Portland.....	Private.....	1915	James W. Crawford.....	490C	176	176	.....	.....	.....	.....	.....
Oregon State Coll., Corvallis.....	State.....	1868	Henry M. Gunn.....	743C	46	3,309	362	30,471	308,226	0	1,120,752
Oregon State Coll., Newberg.....	State.....	1899	August Leroy Strand.....	159C	825	.....	.....	298,453	5,438,635	16,886,736	.....
Pacific Coll., Forest Grove.....	Private.....	1840	Walter A. Carey.....	941C	17	614	64	37,148	85,300	327,298	794,000
South Coll., Portland.....	Private.....	1904	E. B. M. Naughton.....	681C	62	307	21	87,270	465,704	958,500	1,327,310
Southern Oregon Coll. of Education, Ashland.....	State.....	1926	St. M. Stearnson.....	651C	39	229	0	20,568	173,042	0	660,000
Teachum Coll., Marylhurst.....	Catholic.....	1911	St. M. Stearnson.....	.....W	.....	.....	.....	.....	.....	.....	.....
Univ. of Oregon, Eugene and Portland.....	State.....	1872	Harold Newburn.....	8,892C	3,203	3,203	1,100	400,104	4,047,000	1,378,840	10,054,556
Univ. of Oregon, Eugene and Portland.....	Private.....	1901	T. J. Mahling.....	1,947C	102	1,247	35	40,000	335,262	.....	1,000,000
Vancouver Coll., Portland.....	State.....	1946	S. E. Eppler.....	1,213C	50	629	22	5,000	.....	2,000,000	1,060,000
Willamette Univ., Salem.....	Methodist.....	1842	G. Herbert Smith.....	1,270C	68	521	22	61,000	725,000	.....	.....
Pennsylvania											
Albright Coll., Reading.....	Ev. U. Breth.....	1866	Harry V. Masters.....	774C	55	371	0	29,454	748,208	995,178	1,144,791
Allentown Coll., Meadville.....	Private.....	1815	Louis T. Beneset.....	1,058C	79	368	5	120,000	1,008,940	2,641,603	2,914,154
Allentown Junior Coll., Cambridge Springs.....	Private.....	1912	John A. Jaded (a).....	299C	25	147	0	12,000	149,537	3,000,000	719,383
Beaver Coll., Jenkintown.....	Presbyterian.....	1883	Raymond M. Kistler.....	588W	67	.....	0	23,000	679,310	2,400,000	.....
Bryn Mawr Coll., Bryn Mawr.....	Private.....	1880	Katharine E. McBride.....	565C	102	20	150	203,000	804,207	7,762,021	5,421,081
Bucknell Univ., Lewisburg and Wilkes-Barre.....	Baptist.....	1846	Herbert L. Spencer.....	2,318C	158	1,151C	66	110,000	1,818,404	1,562,419	8,466,111

Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Fall enrollment, 1948			1947-1948			Value of Plant
					Full-time Undergraduates	Students under Veterans Programs	Graduate Students	Volumes in Libraries	Total Income	Endowment	
Carnegie Inst. of Technology, Pittsburgh	Private	1900	Robert E. Doherty	312	3,359C	1,480	314	68,073	\$ 5,075,382	\$24,160,314	\$ 7,797,759
Cedar Crest Coll., Allentown	Ev. and Ref.	1867	Dale Hendry Moore	41	381W	6	0	28,000	431,339	100,904	1,164,935
College of Arts and Sciences, Allentown	Catholic	1871	Sister Marie Koetke	51	474W	5	0	31,600	342,750	93,000	2,905,000
College of Arts and Sciences, Allentown	Catholic	1923	Sister Marie Teresa	47	440W	10	0	23,500	304,925	1,100,000	1,250,000
College of Arts and Sciences, Allentown	Private	1773	William W. Edel	74	966C	387	188	81,000	675,000	2,037,015	2,000,000
College of Arts and Sciences, Allentown	Private	1891	James Cresce	247	3,145C	1,641	0	86,314	2,218,941	1,376,566	4,700,524
College of Arts and Sciences, Allentown	Private	1907	Abraham A. Neuman	14	710C	2	75	55,000	2,099,000	2,115,000	510,804
College of Arts and Sciences, Allentown	Catholic	1878	Francis P. Smith	393	3,700C	3,000	208	49,162	212,429	3,368,543	1,061,413
College of Arts and Sciences, Allentown	Ev. and Ref.	1826	H. H. Van Houten	18	286C	105	13	27,000	270,635	270,635	388,389
College of Arts and Sciences, Allentown	Catholic	1861	Joseph J. Dierker	50	308C	288	0	15,000	260,074	1,637,208	3,081,062
College of Arts and Sciences, Allentown	Ev. and Ref.	1787	Joseph J. Wohle	83	1,410M	783	51	111,000	838,737	650,000	1,233,965
College of Arts and Sciences, Allentown	Catholic	1944	Joseph J. Wohle	67	1,410M	783	51	111,000	838,737	650,000	1,233,965
College of Arts and Sciences, Allentown	Catholic	1848	W. M. Pease	55	876C	385	0	87,000	618,559	744,010	3,356,033
College of Arts and Sciences, Allentown	Catholic	1848	W. M. Pease	55	876C	385	0	87,000	618,559	744,010	3,356,033
College of Arts and Sciences, Allentown	Catholic	1878	W. M. Pease	55	876C	385	0	87,000	618,559	744,010	3,356,033
College of Arts and Sciences, Allentown	Catholic	1848	Charles A. Allen	355	3,66C	198	1	36,451	292,925	242,264	4,405,000
College of Arts and Sciences, Allentown	Catholic	1915	Keith H. Harcum	28	181W	2	0	2,400	292,925	242,264	4,405,000
College of Arts and Sciences, Allentown	Catholic	1833	Albert F. White	58	549M	189	6	170,000	562,401	242,264	4,405,000
College of Arts and Sciences, Allentown	Catholic	1938	W. J. Fenstermacher	16	95C	40	0	16,486	49,815	242,264	4,405,000
College of Arts and Sciences, Allentown	Catholic	1914	Vincent L. Burns	44	386W	452	0	24,400	208,000	75,000	3,046,000
College of Arts and Sciences, Allentown	Catholic	1825	Wm. Harvey Perkins	24	634M	452	0	53,099	352,617	829,298	1,293,019
College of Arts and Sciences, Allentown	Catholic	1876	Calvert N. Ellis	45	666C	252	0	33,500	333,210	829,298	1,293,019
College of Arts and Sciences, Allentown	Catholic	1868	Blake Tewksbury	35	435C	173	0	13,500	1,315,794	4,927,690	4,520,802
College of Arts and Sciences, Allentown	Catholic	1828	Ralph C. Hutchison	135	2,058M	1,075	0	30,000	1,315,794	4,927,690	4,520,802
College of Arts and Sciences, Allentown	Catholic	1863	Brother G. Paul	94	1,995M	1,250	0	36,000	1,315,794	4,927,690	4,520,802
College of Arts and Sciences, Allentown	Catholic	1866	Clyde Wm. Lynch	52	821C	372	0	41,975	3,270,190	1,237,872	908,569
College of Arts and Sciences, Allentown	Catholic	1865	Martin D. Whitaker	308	2,957M	1,735	361	275,000	6,591,330	1,080,740	6,080,000
College of Arts and Sciences, Allentown	Catholic	1854	Horaz Mann Bond	41	495M	188	15	42,000	659,330	607,000	847,437
College of Arts and Sciences, Allentown	Catholic	1864	Paul J. Hob	37	97M	37	76	51,000	110,000	139,388	1,396,304
College of Arts and Sciences, Allentown	Catholic	1812	John W. Long	51	912C	462	0	13,980	208,000	75,000	3,046,000
College of Arts and Sciences, Allentown	Catholic	1916	Raymond A. Lane	11	100M	17	0	42,738	208,000	75,000	3,046,000
College of Arts and Sciences, Allentown	Catholic	1915	Sister M. Sylvia	56	570W	15	0	19,000	208,000	75,000	3,046,000
College of Arts and Sciences, Allentown	Catholic	1926	Mother M. F. Borgia	34	238W	3	1	4,000	346,003	612,426	687,475
College of Arts and Sciences, Allentown	Catholic	1844	Harold R. Rice	46	347W	9	17	40,000	303,369	343,000	1,000,000
College of Arts and Sciences, Allentown	Catholic	1807	R. S. Haupt	30	368M	249	10	10,000	225,406	50,000	2,000,000
College of Arts and Sciences, Allentown	Catholic	1849	Edwin J. Heath	50	212W	2	0	6,000	78,000	1,092,571	2,484,511
College of Arts and Sciences, Allentown	Catholic	1839	Sr. M. O'Reilly	17	105C	10	0	27,900	993,366	805,159	1,100,000
College of Arts and Sciences, Allentown	Catholic	1929	Mother M. McConnell	45	317W	754	0	78,000	351,000	87,564	480,313
College of Arts and Sciences, Allentown	Catholic	1848	Levering Tyson	103	2,771M	107	0	12,760	351,000	87,564	480,313
College of Arts and Sciences, Allentown	Catholic	1866	James Work	27	215M	107	0	13,919	351,000	87,564	480,313
College of Arts and Sciences, Allentown	Catholic	1850	Abby A. Sutherland	41	68W	0	0	7,800	570,476	1,076,425	2,158,889
College of Arts and Sciences, Allentown	Catholic	1826	Sarah W. Briggs	27	170W	6	0	32,462	570,476	1,076,425	2,158,889
College of Arts and Sciences, Allentown	Catholic	1869	Paul R. Anderson	59	504W	6	0	12,000	775,941	517,000	842,500
College of Arts and Sciences, Allentown	Catholic	1821	Frank K. Hyatt	54	998M	798	1,002	294,407	16,367,482	54,751	753,000
College of Arts and Sciences, Allentown	Catholic	1855	James Niholland (e)	1,714	13,248C	5,496	0	5,500	321,214	90,000	1,500,000
College of Arts and Sciences, Allentown	Catholic	1919	Albert Fitch	33	515C	443	35	26,000	383,076	257,029	827,513
College of Arts and Sciences, Allentown	Catholic	1898	Osterben Dressler	155	551	551	35	3,147	34,773	5,000	82,000
College of Arts and Sciences, Allentown	Catholic	1821	Ivor Griffith	75	869C	474	0	1,000	255,590	0	550,000
College of Arts and Sciences, Allentown	Catholic	1876	Edward Warwick	80	994C	551	0	1,000	255,590	0	550,000
College of Arts and Sciences, Allentown	Catholic	1918	Helen S. Willard	42	88W	14	0	1,000	255,590	0	550,000
College of Arts and Sciences, Allentown	Catholic	1883	Bertrand W. Hayward	40	502C	321	0	1,000	255,590	0	550,000
College of Arts and Sciences, Allentown	Catholic	1915	Dallmeyer Russell	34	99C	76	0	1,000	255,590	0	550,000
College of Arts and Sciences, Allentown	Catholic	1922	Mother Mary Boniface	44	324W	33	106	110,450	410,825	680,000	2,814,840
College of Arts and Sciences, Allentown	Catholic	1832	Francis J. Furey	25	293M	33	0	20,000	410,825	680,000	2,814,840
College of Arts and Sciences, Allentown	Catholic	1832	Francis J. Furey	25	293M	33	0	20,000	410,825	680,000	2,814,840
College of Arts and Sciences, Allentown	Catholic	1847	Adrian J. M. Veile	35	753C	457	0	20,000	410,825	680,000	2,814,840

Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Full-time Undergraduates	Graduate Programs	State Students	1917-1918			Value of Plant
								Volumes in Libraries	Total Income	Endowment	
Converse Coll., Spartanburg.....	Private.....	(3)	Edward M. Gwathmey.....	44	371C	9	2	37,250	\$ 393,122	\$ 643,980	\$ 1,218,961
Franklin Coll., Due West.....	A. R. Presb.....	1889	R. Calvin Grier.....	34	422C	172	0	28,000	314,000	400,900	648,000
Friendship Junior Coll., Rock Hill.....	Baptist.....	1839	J. H. Goudlock.....	19	21	21	0	70,000	1,002,798	3,200,000	2,435,000
Friendship Univ., Greenville.....	Baptist.....	1826	John Laney Plyler.....	73	1,257C	500	0	16,976	.....	800,000	1,650,000
Friendship Coll., Greenwood.....	Private.....	1872	Boyer M. Grier.....	26	151C	9	0	25,000	.....	.....	1,100,000
Friendship Coll., Gaffney.....	Private.....	1845	R. C. Granberry.....	35	333C	.....	0	19,000	487,000	220,000	486,507
Lutheran Theol. Southern Seminary, Columbia.....	U. Lutheran.....	1830	John L. Yost.....	109	214C	152	0	2,801	293,000	50,000	294,136
Medical Coll. of the State of S.C., Charleston.....	State.....	1823	Kenneth M. Lynch.....	31	544C	.....	0	9,000	357,239	327,000	988,890
Morris Coll., Sumter.....	Baptist.....	1908	H. H. Butler.....	21	.....	.....	0	1,115	113,480	.....	1,850,000
Newberry Coll., Newberry.....	U. Lutheran.....	1856	James C. Kinard.....	31	544C	.....	0	1,115	2,742,940	.....	4,830,000
North Greenville Baptist Ac. & J. C., Tigerville.....	Baptist.....	1892	M. C. Donnan.....	13	182C	.....	0	66,861	1,600,000	.....	4,455,000
Presbyterian Coll., Clinton.....	Presbyterian.....	1880	Marshall W. Brown.....	13	460C	.....	0	44,560	524,319	899,698	1,060,979
South Carolina State Coll., Orangeburg [*].....	State.....	1886	R. F. Whitaker.....	173	1,182C	56	0	25,582	485,711	490,000	836,306
Spartanburg Junior Coll., Spartanburg.....	Methodist.....	1911	M. F. Burgess.....	11	254C	.....	0	20,000	185,650	584,716	788,000
The Citadel, Charleston.....	State.....	1842	C. P. Sumner.....	191	1,924M	305	0	75,000	314,004	584,716	570,043
Univ. of S.C., Columbia.....	State.....	1801	Norman M. Smith.....	27	3,783C	.....	0	10,180	171,667	50,323	582,727
Voorhees Junior Coll., Denmark [*].....	P. E.....	1897	Henry R. Sims.....	22	1,217W	.....	0	30,000	364,000	.....	1,750,000
Winthrop Coll., Rock Hill.....	State.....	1886	Walter K. Greene.....	36	647M	328	0	25,582	485,711	490,000	836,306
Wofford Coll., Spartanburg.....	Methodist.....	1854	L. M. Stavig.....	46	784C	328	0	20,000	185,650	584,716	788,000
Augustana Coll., Sioux Falls.....	Ev. Lutheran.....	1860	Russell E. Jones.....	36	395C	136	0	75,000	314,004	584,716	570,043
Black Hills Tchr. Coll., Spearfish.....	State.....	1880	Samuel Hiburn.....	46	395C	136	0	11,000	171,667	50,323	582,727
Dakota Wesleyan Univ., Mitchell.....	Methodist.....	1885	V. A. Lowry.....	24	192C	128	0	10,180	364,000	.....	1,750,000
General Beadle State Tchr. Coll., Madison.....	State.....	1881	Geo. F. McDougall.....	24	292C	128	0	19,000	197,074	104,776	501,868
Huron Coll., Huron.....	Catholic.....	1836	Mother M. Jerome.....	6	60W	1	0	19,000	405,044	100,000	2,251,000
Mount Marty Junior Coll., Yankton.....	State.....	1901	N. E. Steele.....	48	723C	270	0	118,500	3,097,564	764,527	2,086,334
Notre Dame Junior Coll., Mitchell.....	Catholic.....	1922	J. M. Brady.....	13	.....	.....	0	123,000	158,689	157,492	584,835
Sioux Falls Coll., Sioux Falls.....	Baptist.....	1883	E. E. Smith.....	34	340C	129	0	52,000	232,492	720,619	1,011,098
South Dakota School of Mines & Tech., Rapid City.....	State.....	1885	Warren E. Wilson.....	50	697C	472	1	.....	.....	.....	.....
South Dakota State Coll. of A. & M., Brookings.....	State.....	1881	Fred H. Lienbach.....	178	2,200C	932	45	.....	.....	.....	.....
Southern State Tchr. Coll., Springfield.....	State.....	1897	J. Howard Kramer.....	23	130C	49	0	.....	.....	.....	.....
Univ. of South Dakota, Vermillion.....	State.....	1882	L. D. Weeks.....	135	1,867C	1,009	63	.....	.....	.....	.....
Yankton Coll., Yankton.....	Cong.....	1882	James C. Graham.....	31	1,415C	142	6	.....	.....	.....	.....
Tennessee											
Andrew Jackson Univ., Nashville.....	Private.....	1827	D. E. Short, Jr.....	85	451C	191	0	20,500	.....	.....	.....
Austin Peay State Coll., Clarksville.....	State.....	1829	Robert Harvill.....	24	310C	110	0	87,500	470,000	470,000	400,000
Bethel Coll., McKenzie.....	Presbyterian.....	1812	Roy N. Baker.....	24	310C	110	0	28,708	94,698	346,301	401,495
Carson-Newman Univ., Jefferson City.....	Baptist.....	1812	Edwin S. Preston.....	39	700C	234	0	20,000	327,260	373,000	8,002,857
Cumberland Univ., Lebanon.....	Baptist.....	1812	A. C. Pallas.....	39	700C	234	0	20,000	327,260	373,000	8,002,857
David Lipscomb Coll., Nashville [J].....	Ch. of Christ.....	1812	C. C. Shugart.....	39	700C	234	0	20,000	327,260	373,000	8,002,857
East Tennessee State Coll., Johnson City.....	State.....	1812	C. C. Shugart.....	39	700C	234	0	20,000	327,260	373,000	8,002,857
Fisk Univ., Nashville [*].....	Private.....	1845	N. B. S. Johnson.....	72	1,415C	270	52	96,561	923,894	4,417,288	1,770,561
Freed-Hardeman Coll., Henderson [J].....	Ch. of Christ.....	1845	N. B. S. Johnson.....	72	1,415C	270	52	96,561	923,894	4,417,288	1,770,561
George Peabody Coll. for Teachers, Nashville.....	Private.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Hixson Coll., Madisonville.....	Methodist.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Johnson Bible Coll., Kimberlin Heights.....	Private.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
King Coll., Bristol.....	Presbyterian.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Knobloch Coll., Knoxville [*].....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Lambuth Coll., Jackson.....	Methodist.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Lane Coll., Jackson [*].....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Lee Coll., Cleveland.....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
LeMoyne Coll., Memphis [*].....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Lincoln Memorial Univ., Harrogate.....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Madison Coll., Madison College.....	U. Presb.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753
Martin Coll., Pulaski [J].....	Methodist.....	1875	P. F. Hill.....	139	1,399C	833	543	8,711	1,155,885	5,458,334	4,347,753

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Maryville Coll., Maryville.....	Presbyterian.....	1819	882C	Ralph Waldo Lloyd.....	63	188	0	0	51,796 \$	566,158	\$ 1,961,696	\$ 2,061,390
McTear Medical Coll., Nashville [*].....	Private.....	1876	431C	J. M. Don Dawson.....	125	226	5	5	2,600	924,866	4,616,985	2,191,000
Michigan State Coll., Michigan.....	State.....	1912	2135C	Q. M. Smith.....	110	788	0	0	40,000	0	0	3,000,000
Michigan State Coll., Murrensboro.....	State.....	1911	1,030C	Q. M. Smith.....	58	458	0	0	29,000	680,000,784	219,025	1,500,000
Michigan Coll., Milligan Coll., Michigan.....	Church.....	1911	406C	Elmer C. Lewis.....	32	155	0	0	17,750	231,494	0	545,085
Minneapolis Coll., Morrisstown [*].....	Methodist.....	1911	65C	Hugh C. Stuntz.....	20	52	67	67	496,939	214,408	543,913	1,101,118
Missouri Coll., Nashville.....	Catholic.....	1913	90C	Sister Raymond.....	21	11	0	0	14,000	0	0	0
Missouri Coll., Nashville.....	Private.....	1913	90C	W. R. Cramer.....	21	11	0	0	14,000	0	0	0
Missouri Coll., Nashville.....	S.D.A.....	1913	90C	Kenneth A. Wright.....	43	114	0	0	0	2,511,103	0	787,555
Missouri Coll., Nashville.....	Presbyterian.....	1913	90C	Charles E. Diehl.....	66	269	0	0	0	2,402,323	0	2,454,834
Missouri Coll., Nashville.....	State.....	1913	90C	W. S. Davis.....	170	701	45	45	0	1,202,217	0	2,500,000
Missouri Coll., Nashville.....	State.....	1913	90C	Everett Derryberry.....	94	116	0	0	0	8,001,660	0	2,500,000
Missouri Coll., Nashville.....	State.....	1913	90C	James L. Robb.....	37	160	5	5	0	2,422,225	195,050	642,602
Missouri Coll., Nashville.....	State.....	1913	90C	A. B. Mackey.....	15	14	0	0	0	35,225	0	425,000
Missouri Coll., Nashville.....	State.....	1913	90C	George K. Davies.....	28	140	0	0	0	392,560	381,855	817,704
Missouri Coll., Nashville.....	State.....	1913	90C	W. F. Jones.....	35	211	0	0	0	654,668	882,073	2,997,000
Missouri Coll., Nashville.....	State.....	1913	90C	David A. Lockmiller.....	108	710	22	22	0	3,197,629	639,080	19,282,508
Missouri Coll., Nashville.....	State.....	1913	90C	Clair E. Beck.....	673	4,041	641	641	0	1,396,000(6)	2,381,000(6)	1,575,000(6)
Missouri Coll., Nashville.....	State.....	1913	90C	Henry M. Gass (a).....	45	214	57	57	0	3,906,978	31,159,364	9,502,383
Missouri Coll., Nashville.....	State.....	1913	90C	Harvie Braunscomb.....	485	1,183	243	243	0	850,000	15,000	1,900,000
Missouri Coll., Nashville.....	State.....	1913	90C	Robert C. Provine.....	79	48	0	0	0	850,000	15,000	225,000
Missouri Coll., Nashville.....	State.....	1913	90C	Judson Archer Rudd.....	12	48	0	0	0	850,000	15,000	225,000
Missouri Coll., Nashville.....	State.....	1913	90C	Don H. Morris.....	74	553	0	0	22,500	1,223,280	214,920	1,223,280
Missouri Coll., Nashville.....	State.....	1913	90C	A. M. Meyer.....	43	88	0	0	11,900	270,019	0	123,500
Missouri Coll., Nashville.....	State.....	1913	90C	Frank C. Bolton.....	533	4,554	343	343	163,000	6,219,315	412,993	19,176,000
Missouri Coll., Nashville.....	State.....	1913	90C	W. B. Guerrant.....	41	265	0	0	20,646	815,900	1,500,000	1,250,000
Missouri Coll., Nashville.....	State.....	1913	90C	William R. White.....	210	2,288	131	131	145,000	3,393,000	8,130,000	6,212,000
Missouri Coll., Nashville.....	State.....	1913	90C	Joseph J. Rhoads.....	44	268	67	67	23,268	461,131	20,200	711,856
Missouri Coll., Nashville.....	State.....	1913	90C	Thomas M. Spencer.....	18	385C	13	13	6,000	170,226	0	300,000
Missouri Coll., Nashville.....	State.....	1913	90C	C. W. Reed.....	14	118	0	0	3,000	205,303	0	500,000
Missouri Coll., Nashville.....	State.....	1913	90C	R. W. Barron.....	28	118C	0	0	5,000	125,212	0	875,000
Missouri Coll., Nashville.....	State.....	1913	90C	O. L. Puryear.....	26	170	69	69	5,287	75,000	0	315,229
Missouri Coll., Nashville.....	State.....	1913	90C	H. T. Bandy.....	10	16	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	O. O. Barndt.....	12	38	1	1	5,977	66,182	15,000	177,758
Missouri Coll., Nashville.....	State.....	1913	90C	E. L. Harvin.....	87	152	0	0	22,000	91,480	0	310,500
Missouri Coll., Nashville.....	State.....	1913	90C	Lewis S. Chasler.....	12	65	26	26	6,000	62,542(6)	125,000	203,391
Missouri Coll., Nashville.....	State.....	1913	90C	J. L. Ward.....	11	161C	0	0	6,000	671,868	0	1,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	E. L. Harvin.....	48	118	0	0	6,659	175,000	0	300,000
Missouri Coll., Nashville.....	State.....	1913	90C	G. W. Parish.....	82	134	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	E. F. Gau.....	120	194	0	0	12,373	343,914	135,000	848,690
Missouri Coll., Nashville.....	State.....	1913	90C	H. D. Bruce.....	35	104	0	0	93,639	276,838	0	3,775,781
Missouri Coll., Nashville.....	State.....	1913	90C	James G. Gee.....	104	798	250	250	10,000	185,000	0	1,800,000
Missouri Coll., Nashville.....	State.....	1913	90C	H. A. Hodges.....	36	233	0	0	5,000	17,000	0	250,000
Missouri Coll., Nashville.....	State.....	1913	90C	Roy P. Wilson.....	17	23	0	0	14,000	874,907	381,000	5,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	James B. Boren.....	101	1,313	100	100	2,334	104,510	0	144,960
Missouri Coll., Nashville.....	State.....	1913	90C	Orval Pridle.....	18	102	0	0	10,000	181,068	0	500,000
Missouri Coll., Nashville.....	State.....	1913	90C	W. Reed Dawson.....	20	64	0	0	7,500	0	0	1,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	Robert F. Mossman.....	22	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	A. E. Norton.....	76	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	E. C. Dodd.....	16	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Thos. H. Taylor.....	50	245	3	3	28,534	449,795	63,977	1,005,426
Missouri Coll., Nashville.....	State.....	1913	90C	Sr. M. Columick.....	60	314W	0	0	38,093	2,416,655	133,768	1,918,083
Missouri Coll., Nashville.....	State.....	1913	90C	Gerald D. Keller.....	34	196C	0	0	12,500	940,192	190,000	1,821,628
Missouri Coll., Nashville.....	State.....	1913	90C	P. C. Washington.....	16	162C	0	0	30,925	500,000	0	1,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	E. J. Howell.....	84	1,182C	0	0	12,000	500,267	12,753	842,576
Missouri Coll., Nashville.....	State.....	1913	90C	B. E. Masters.....	60	1,185C	0	0	8,211	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	John E. Gray.....	61	1,084C	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	W. J. Adkins.....	23	119	0	0	3,000	\$ 133,755	\$ 113,267	\$ 439,905
Missouri Coll., Nashville.....	State.....	1913	90C	George H. Gentry.....	22	232	0	0	8,002	220,977	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Walter W. Brookings.....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	C. E. Peeples.....	33	330C	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Ch. of Christ.....	74	1,688C	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Amarillo Coll., Amarillo [J].....	43	473C	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	A. & M. Coll. of Texas, College Station.....	533	4,554	343	343	163,000	6,219,315	412,993	19,176,000
Missouri Coll., Nashville.....	State.....	1913	90C	Austin Coll., Sherman.....	41	265	0	0	20,646	815,900	1,500,000	1,250,000
Missouri Coll., Nashville.....	State.....	1913	90C	Raylor Univ., Waco.....	210	2,288	131	131	145,000	3,393,000	8,130,000	6,212,000
Missouri Coll., Nashville.....	State.....	1913	90C	Bishop Coll., Marshall [J].....	44	268	67	67	23,268	461,131	20,200	711,856
Missouri Coll., Nashville.....	State.....	1913	90C	Johnson Coll., Marshall [J].....	18	385C	13	13	6,000	170,226	0	300,000
Missouri Coll., Nashville.....	State.....	1913	90C	Brantley-Draughton Coll., Fort Worth [J].....	14	118	0	0	3,000	205,303	0	500,000
Missouri Coll., Nashville.....	State.....	1913	90C	Brownsville Junior Coll., Brownsville.....	28	118C	0	0	5,000	125,212	0	875,000
Missouri Coll., Nashville.....	State.....	1913	90C	Hutto Coll., Tyler [J].....	26	170	69	69	5,287	75,000	0	315,229
Missouri Coll., Nashville.....	State.....	1913	90C	Cisco Junior Coll., Cisco.....	10	16	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Clarendon Junior Coll., Clarendon.....	12	38	1	1	5,977	66,182	15,000	177,758
Missouri Coll., Nashville.....	State.....	1913	90C	Corpus Christi Junior Coll., Corpus Christi.....	87	152	0	0	22,000	91,480	0	310,500
Missouri Coll., Nashville.....	State.....	1913	90C	Dallas Theological Seminary, Dallas.....	12	65	26	26	6,000	62,542(6)	125,000	203,391
Missouri Coll., Nashville.....	State.....	1913	90C	DePaul Baptist Coll., Dallas.....	48	118	0	0	6,659	175,000	0	300,000
Missouri Coll., Nashville.....	State.....	1913	90C	Del Mar Coll., Corpus Christi [J].....	82	134	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Dragoon Baptist Coll., Dallas.....	120	194	0	0	12,373	343,914	135,000	848,690
Missouri Coll., Nashville.....	State.....	1913	90C	East Texas Baptist Coll., Marshall.....	35	104	0	0	93,639	276,838	0	3,775,781
Missouri Coll., Nashville.....	State.....	1913	90C	East Texas State Coll., Commerce.....	104	798	250	250	10,000	185,000	0	1,800,000
Missouri Coll., Nashville.....	State.....	1913	90C	Edinburg Junior Coll., Edinburg.....	36	233	0	0	5,000	17,000	0	250,000
Missouri Coll., Nashville.....	State.....	1913	90C	Gainesville Junior Coll., Gainesville.....	17	23	0	0	14,000	874,907	381,000	5,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	Hardin Coll., Wichita Falls [J].....	101	1,313	100	100	2,334	104,510	0	144,960
Missouri Coll., Nashville.....	State.....	1913	90C	Henderson County Junior Coll., Athens.....	18	102	0	0	10,000	181,068	0	500,000
Missouri Coll., Nashville.....	State.....	1913	90C	Hillsboro Junior Coll., Hillsboro.....	20	64	0	0	7,500	0	0	1,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	Hockaday Junior Coll., Dallas.....	22	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Houston Coll. for Negroes, Houston.....	76	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Howard County Junior Coll., Big Spring.....	16	101	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Howard Payne Coll., Brownwood.....	50	245	3	3	28,534	449,795	63,977	1,005,426
Missouri Coll., Nashville.....	State.....	1913	90C	Incarinate Word Coll., San Antonio.....	60	314W	0	0	38,093	2,416,655	133,768	1,918,083
Missouri Coll., Nashville.....	State.....	1913	90C	Jacksonville Coll., Jacksonville [J].....	34	196C	0	0	12,500	940,192	190,000	1,821,628
Missouri Coll., Nashville.....	State.....	1913	90C	Jarvis Christian Coll., Hawkins [J].....	16	162C	0	0	30,925	500,000	0	1,000,000
Missouri Coll., Nashville.....	State.....	1913	90C	John Tarleton Ag. Coll., Stephenville [J].....	84	1,182C	0	0	12,000	500,267	12,753	842,576
Missouri Coll., Nashville.....	State.....	1913	90C	Kilgore Coll., Kilgore [J].....	60	1,185C	0	0	8,211	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Lamar Coll., Beaumont [J].....	23	119	0	0	3,000	\$ 133,755	\$ 113,267	\$ 439,905
Missouri Coll., Nashville.....	State.....	1913	90C	Laredo Junior Coll., Laredo.....	22	232	0	0	8,002	220,977	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Lee Junior Coll., Goose Creek.....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	LeTourneau Tech. Inst. of Texas.....	33	330C	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Longview [J].....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Longview [J].....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Longview [J].....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Longview [J].....	19	350M	0	0	0	0	0	0
Missouri Coll., Nashville.....	State.....	1913	90C	Longview [J].....	19	3						

Institution and Address	Control or Affiliation	Year Founded	Chief Executive	Faculty	Fall enrollment, 1948				1947-1948			Value of Plant
					Full-time Undergraduates	Students Undergraduate Programs	Graduate Students	Sw-dents	Volumes in Libraries	Total Income	Endowment	
Mary Allen Junior Coll., Crockett[*]	Baptist	1845	G. L. Prime	21	C	48	....	....	32,500	\$	\$ 1,800,000	....
McHardin-Baylor Coll., Belton	Baptist	1845	G. G. Singleton	45	531W	11	....	....	21,100	....	....	1,500,000
McMurry Coll., Abilene	Methodist	1923	Harold G. Cooke	45	640C	173	0	0	2,575	185,000	0	300,000
Navarro Junior Coll., Corsicana	County	1946	Ray L. Waller	22	257C	61	0	0	183,462	3,333,801	0	6,352,934
North Texas State Univ., Coll., Denton	State	1899	W. J. McConnell	286	4,863C	1,613	298	....	....	....	....	1,686,536
Odesa Junior Coll., Odessa	District	1946	Murry H. Fly	9	C	26	....	....	48,087	100,000	0	500,000
Our Lady of the Lake Coll., San Antonio	Catholic	1896	John L. McMahon	55	389C	21	0	0	2,400	600,000	0	1,000,000
Parola County Junior Coll., Carthage	District	1947	B. W. Mueggraves	22	110C	21	0	0	8,703	160,000	0	750,000
Paris Junior Coll., Paris	District	1924	J. R. McLemore	28	405C	81	25	0	12,000	302,546	51,064	500,000
Paul Quinn Coll., Waco[*]	A. M. E.	1872	Nannie Belle Aycox	32	750C	57	0	0	20,000	2,344,867	26,000	2,517,719
Pineywood Junior Business Coll., Lufkin	Private	1940	G. P. Groggins	6	221C	73	0	0	20,000	302,546	51,064	500,000
Port Arthur Coll., Port Arthur	Methodist	1869	W. D. Mauldin	9	202C	117	44	....	101,360	1,204,052	30,000,000	6,192,806
Prairie A. & M. Coll., Prairie View	State	1876	E. B. Evans	115	202C	117	44	....	12,527	183,628	310,000	785,009
Ranger Junior Coll., Ranger	Local	1926	G. C. Boarwell	15	149C	140	145	....	42,000	632,000	0	1,297,000
Rice Inst., Houston	Private	1912	William V. Houston	127	307M	140	....	....	15,428	1,762,164	7,527	3,687,027
St. Edward's Univ., Austin	Catholic	1878	Edmund Hunt	28	1,184C	73	....	....	8,000	612,454	0	407,875
St. Mary's Univ., San Antonio	Catholic	1862	Louis J. Blume	71	2,241C	340	161	....	9,544	333,303	175,000	750,867
St. Philip's Junior Coll., San Antonio	District	1878	A. Bowden	156	110C	124	....	....	9,000	325,000	4,399,735	1,250,000
Sam Houston State Univ., Huntsville	State	1909	E. B. Lowman	38	110C	124	....	....	244,311	3,507,348	1,680,255	2,131,240
Samuel Houston Coll., Austin[*]	Methodist	1928	W. H. Perkins	24	110C	124	....	....	4,235	411,902	0	2,000,000
San Angelo Coll., San Angelo	County	1923	J. O. Loftin	30	110C	124	....	....	29,326	157,230	0	1,500,000
San Antonio Junior Coll., San Antonio	State	1923	J. O. Loftin	30	110C	124	....	....	15,000	916,508	1,239,857	3,473,877
Schreiner Inst., Kerrville[*]	Methodist	1911	J. O. Loftin	318	6,243C	371	380	....	10,000	103,610	0	1,500,000
Southern Methodist Univ., Dallas	Methodist	1923	U. S. DeLoach	318	6,243C	371	380	....	10,000	103,610	0	1,500,000
South Texas Colleges Law & Commerce, Houston	Y. M. C. A.	1923	W. H. Randolph	30	110C	124	....	....	15,000	916,508	1,239,857	3,473,877
Southwestern Baptist Theol. Seminary, Fort Worth	Baptist	1908	E. D. Head	36	1,330C	21	71	....	14,450	157,230	0	1,500,000
Southwestern Bible Coll., Washburne	Asian. God	1943	M. E. Collins	42	613C	36	5	....	9,500	353,000	0	1,500,000
Southwestern Coll., Dallas	Methodist	1893	J. V. Peters	25	151C	31	0	....	15,000	916,508	1,239,857	3,473,877
Southwestern Univ., Dallas	Methodist	1943	W. Lee Hart	390	213C	120	6	....	3,024	103,610	0	1,500,000
Southwestern Univ., Georgetown	Methodist	1840	J. N. R. Score	121	1,214C	120	104	....	66,935	1,357,000	0	1,500,000
Southwestern Univ., Dallas	Methodist	1946	V. D. Parrott	13	1,214C	120	104	....	41,255	391,782	0	1,500,000
Southwest Texas State Univ., Coll., San Marcos	State	1923	John G. Flowers	68	1,781C	193	75	....	27,000	391,782	0	1,500,000
Stephen F. Austin State Univ., Coll., Nacogdoches	State	1917	Paul L. Boynton	72	1,401C	193	47	....	8,041	10,187	0	1,500,000
Sul Ross State Univ., Coll., Alpine	State	1926	Joe R. Humphrey	19	271C	130	0	....	49,604	2,461,252	3,508,841	5,747,926
Temple Junior Coll., Temple	Municipal	1927	Richard M. Hawkins	54	781C	130	180	....	2,461,252	2,461,252	7,628	8,217,51
Texas A. & M. Univ., Coll., Fort Worth	Municipal	1873	H. W. Stillwell	20	2,461C	2,461	0	....	1,711,189	1,711,189	0	2,254,422
Texas Coll., Tyler[*]	Presbyterian	1894	M. E. Sadler	35	713C	181	58	....	43,653	1,711,189	440,000	1,190,000
Texas Coll. of Arts & Industries, Kingsville	State	1925	Ernest H. Poteet	117	1,845C	314	115	....	22,151	211,078	17,404	7,188,85
Texas Coll. of Mines & Metallurgy, El Paso	State	1891	E. M. Thomas (a)	103	2,81C	314	0	....	4,539	1,221,972	15,000	5,747,926
Texas Lutheran Coll., Seguin	Lutheran	1915	W. B. Abrams	14	1,201C	13	51	....	100,255	3,115,387	0	8,000,000
Texas Military Coll., Terrell	State	1901	L. H. Hubbard	168	2,022W	1,012	50	....	200,000	3,421,448	979,630	1,829,019
Texas State Coll. for Women, Denton	State	1905	D. M. Wiggins	400	6,105C	2,703	50	....	22,000	408,888	2,269	111,504
Texas Techological Coll., Lubbock	State	1870	Law Sone	60	963C	395	8	....	200,000	3,421,448	979,630	1,829,019
Texas Wesleyan Coll., Fort Worth	Methodist	1877	Fred L. Brownlee	38	569C	145	8	....	22,221	269,467	327,856	617,582
Tilghson Coll., Austin[*]	A. M. A.	1849	Monroe G. Everett	92	1,204C	629	0	....	43,929	587,352	0	1,500,000
Trinity Univ., San Antonio	Presbyterian	1906	H. E. Jenkins	32	1,033C	169	659	....	3,812	2,171,148	250,000	3,690,632
Tyler Junior Coll., Tyler	Municipal	1934	E. E. Oberholzer	352	8,033C	5,214	1,681	....	14,140	1,414,014	98,696,649	29,721,146
Univ. of Houston, Houston	State	1927	T. S. Painter	1,082	16,814C	9,168	0	....	10,177	3,010,000	124,001	300,000
Univ. of Texas, Austin, Houston & Galveston	State	1825	T. A. Roach	24	1,900C	132	0	....	7,100	1,375,575	0	646,361
Victoria Junior Coll., Victoria	State	1909	J. W. Marshall	40	511C	445	57	....	270,315	1,375,575	0	2,338,725
Wayland Baptist Coll., Plainview	Baptist	1910	James P. Cornette	67	1,144C	445	0	....	2,000	\$	8	700,000
West Texas State Coll., Canyon	State	1916	J. M. Hodges	60	321C	63	....	....	2,000	2,571,929	286,433	3,836,332
Wharton County Junior Coll., Wharton	District	1873	E. C. McLeod	60	370C	223	....	....	160,000	2,571,929	286,433	3,836,332
Wiley Coll., Marshall[*]	Methodist	1873	E. C. McLeod	60	370C	223	....	....	160,000	2,571,929	286,433	3,836,332
Brigham Young Univ., Provo	L. D. S.	1875	Howard S. McDonald	260	4,634C	1,509	146	....	160,000	2,571,929	286,433	3,836,332

Institution and Address	Control or Affiliation	Year Founded	Chief Executive (4)	Faculty (5)	Fall enrollment, 1948			1947-1948			Value of Plant
					Full-time Undergraduates (6)	Students under Veterans Programs (7)	Graduate Students (8)	Total Income (9)	Endowment (10)	Value of Plant (11)	
Washington and Lee Univ., Lexington, Va.	Private	1749	Francis P. Gaines	86	1,208M	386	0	\$ 93,965	\$ 4,680,342	\$ 8,053,435	
Central Washington Coll. of Ed., Ellensburg, Wash.	State	1891	R. E. McConnell	85	1,208C	424	10	2,216,127	0	4,323,382	
Central Junior Coll., Centralia, Wash.	State	1923	William Bloom	21	249C	276	0	278,000	0	500,000	
Central State Coll., Centralia, Wash.	State	1923	P. J. McLaughlin	21	249C	276	0	278,000	0	500,000	
Coll. of Puget Sound, Tacoma, Wash.	Methodist	1863	R. Franklin Thompson	98	1,830C	972	70	1,536,831	1,678,034		
Eastern Washington Coll. of Education, Cheney, Wash.	State	1890	Walter Jale	94	658C	511	0	800,000	0	250,000	
Everett Junior Coll., Everett, Wash.	State	1941	J. F. M. Buechel	46	1,814M	896	42	94,396	0	1,511,379	
Lincoln Univ., Spokane, Wash.	Private	1887	F. E. Corkery	137	2,202C	50	0	122,038	0	371,596	
Lincoln Harbor Coll., Aberdeen, W. Va.	State	1930	George L. Hall	19	1,600W	7	0	537,854	71,416	1,838,883	
Italy Names Coll., Spokane, Wash.	Catholic	1907	St. M. E. Clare	23	646C	0	0	90,000	0	1,300,000	
Olympic Junior Coll., Bremerton, Wash.	Local	1946	Gerald O. Cannon	40	337M	179	0	400,000	186,000	450,000	
Pauline Lutheran Coll., Parkland, Wash.	Lutheran	1894	S. C. Eastford	53	852C	0	0	122,038	0	371,596	
St. Martin's Coll., Lacey, Wash.	Catholic	1895	Raphael Heider	88	337M	179	0	537,854	71,416	1,838,883	
Seattle Pacific Coll., Seattle, Wash.	Catholic	1891	Albert A. Lemieux	81	3,119C	1,111	10	90,000	0	1,300,000	
Seattle Pacific Coll., Seattle, Wash.	Methodist	1891	C. Hoyt Watson	40	635C	0	0	400,000	186,000	450,000	
Skagit Valley Junior Coll., Mount Vernon, Wash.	Local	1890	W. S. Wynstra	15	1,693C	0	0	122,038	0	371,596	
State Coll. of Washington, Pullman, Wash.	State	1890	Wilson Compton	442	6,104C	3,129	564	8,993,325	15,843,074	15,220,004	
Univ. of Washington, Seattle, Wash.	State	1861	Raymond B. Allen	1,583	16,650C	1,146	1,660	12,769,688	2,768,863	50,000,000	
Wallis Walla Coll., College Place, Wash.	Adventist	1892	George W. Bowers	60	1,077C	415	9	379,172	0	1,490,769	
Wenatchee Junior Coll., Wenatchee, Wash.	Local	1939	Paul Ferguson	20	210C	0	0	70,947	217,680	7,500,000	
Western Washington Coll. of Education, Bellingham, Wash.	State	1899	W. W. Haggard	86	1,319C	44	9	750,000	1,483,004	1,095,257	
Whitman Coll., Walla Walla, Wash.	Private	1859	Winslow S. Anderson	57	825C	24	8	690,700	45,000	940,363	
Whitworth Coll., Spokane, Wash.	Presbyterian	1890	Frank F. Warren	50	807C	24	15	125,000	0	1,000,000	
Yakima Valley Junior Coll., Yakima, Wash.	District	1928	Harold A. Hoeglund	21	316C	1	0	136,189	45,000	750,000	
Alderson-Broaddus Coll., Philippi, West Virginia	Baptist	1871	John W. Elliott	32	177C	61	0	1,025,287	3,085,887	2,065,885	
Beckley Coll., Beckley, W. Va.	Private	1933	D. K. Shroyer	24	610C	125	4	46,018	0	900,000	
Bethany Coll., Bethany, W. Va.	Private	1840	Wilbur H. Cramblet	53	707C	235	0	17,700	0	2,250,000	
Bluefield State Coll., Bluefield, W. Va.	State	1895	H. L. Dickason	31	565C	163	0	18,000	0	608,845	
Concord Coll., Athens, W. Va.	Presbyterian	1875	Virgil H. Stewart	52	865C	312	0	495,000	222,000	1,543,788	
Davis and Elkins Coll., Elkins, W. Va.	State	1904	R. B. Purdum	12	804C	403	0	33,000	0	1,000,000	
Fairmont State Coll., Fairmont, W. Va.	State	1867	George H. Hand	65	947C	125	0	481,538	0	1,000,000	
Glenville State Coll., Glenville, W. Va.	State	1872	Harry B. Hefflin	30	432C	165	0	1,720,255	305,505	1,458,004	
Marshall Coll., Huntington, W. Va.	State	1837	Stewart H. Smith	167	2,688C	1,380	261	399,600	126,624	315,433	
Morris Harvey Coll., Charleston, W. Va.	Private	1888	Leonard Riggelman	58	1,021C	605	0	16,300	0	1,800,000	
Potomac State School, Keyser, W. Va.	State	1902	E. E. Church	35	441C	175	0	20,150	0	1,800,000	
Salem Coll., Salem, W. Va.	State	1888	S. Orestes Bond	31	426C	237	0	19,000	0	1,800,000	
Shepherd Coll., Shepherdstown, W. Va.	S.D. Baptist	1871	R. I. McKinney	27	396C	201	0	24,592	0	1,800,000	
Storer Coll., Harpers Ferry, W. Va.	Pvt. & State	1867	O. S. Ikenberry	31	426C	237	0	19,000	0	1,800,000	
West Liberty State Coll., West Liberty, W. Va.	State	1837	Paul N. Elbin	30	520C	210	0	19,000	0	1,800,000	
West Virginia Inst. of Technology, Montgomery, W. Va.	State	1895	M. J. Horsch	42	490C	252	0	24,592	0	1,800,000	
West Virginia State Coll., Institute, W. Va.	State	1891	John W. Davis	47	1,805C	560	0	212,218	115,300	15,000,000	
West Virginia Univ., Morgantown, W. Va.	State	1867	Irvin Stewart	40	6,179C	3,579	424	6,785,327	231,356	686,164	
West Virginia Wesleyan Coll., Buckhannon, W. Va.	Methodist	1890	W. J. Scarborough	10	790C	354	0	444,759	0	2,777,754	
Alverno Coll., Milwaukee, Wis.	Catholic	1896	Sister M. Augustine	26	342W	0	0	149,000	2,633,655	1,250,862	
Beloit Coll., Beloit, Wis.	Private	1890	Mother M. Corona	78	1,003C	309	1	18,618	0	2,000,000	
Cardinal Stritch Coll., Milwaukee, Wis.	Catholic	1932	Sister Mary Ignatia	28	1,300W	3	0	36,208	1,039,475	446,324	
Carroll Coll., Waukesha, Wis.	Presbyterian	1846	Nelson V. Russell	58	740C	363	0	386,849	0	922,138	
Central State Teachers Coll., Stevens Point, Wis.	State	1894	William C. Hansen	65	740C	267	40,000	702,051	1,578,200	3,260,000	
Edgewood Coll., Madison, Wis.	Private	1927	Sister Mary Dunstan	10	144W	2	0	46,103	0	2,000,000	
Evangelical Lutheran Theol. Sem., Thiensville, Wis.	Ev. Lutheran	1863	John P. Meyer	12	151C	1	0	702,051	9,158	3,260,000	
Fond du Lac College, Fond du Lac, Wis.	Private	1944	L. T. Meza	36	1,000C	44	47	1,055,900	4,939,233	200,000	
Institute of Paper Chemistry, Appleton, Wis.	Private	1926	Westbrook Steele	98	1,000C	236	0	4,197,178	225,000		
Lawrence Coll., Appleton, Wis.	Private	1847	Nathan M. Pusey	69	1,000C	236	0	137,340	0		
Marquette Univ., Milwaukee, Wis.	Catholic	1864	Edward J. O'Donnell	692	6,983C	4,820	404	17,000	0		
Milton Coll., Milton, Wis.	S.D. Baptist	1844	Carroll L. Hill	44	373C	191	0		0		

Institution and Address (1)	Control or Affiliation (2)	Year Found- ed (3)	Chief Executive (4)	Fac- ulty (6)	Grad- uates (7)	Stu- dents (8)	1947-1948			
							Volumes in Libraries (9)	Total Income (10)	Endowment (11)	Value of Plant (12)
Toronto Bible Coll., Toronto.....	Interdenom.....	1894	J. B. Rhodes.....	13	230C	10	6,000	\$ 41,000	0	\$ 209,000
Univ. of Ottawa, Ottawa.....	Catholic.....	1866	Fr. J. Lafontaine.....	344	2,085C	128	140,000	1,280,031	120,000	2,000,000
Univ. of Toronto, Toronto.....	Provincial.....	1827	Sidney Smith.....	1,502	16,373C(c)	1,903	633,795	7,480,000	0	17,251,946
Univ. of Western Ontario, London.....	Provincial.....	1878	G. Edward Hall.....	369	3,590C	146	117,000	1,107,000	2,420,108	3,722,448
Waterloo Coll., Waterloo.....	Provincial.....	1925	H. T. Lehmann.....	28	165C	0	12,000	70,999	878	136,162
Prince of Wales Coll., Charlottetown.....	Provincial.....	1880	R. V. MacKenzie.....	32	582C	25	4,595	118,788(6)	88,450	385,000
St. Dunstan's Coll., Charlottetown.....	Catholic.....	1855	G. D. Steel.....	18	303C	0	10,000	.....	.....	800,000
Quebec										
Coll. of St. Marie, Montreal.....	Catholic.....	1848	Roméo Bergeron.....	59	813C	.....	80,000	150,371	.....	1,250,000
Laval Univ., Quebec City.....	Catholic.....	1862	Ferdinand Vandry.....	1,030	6,411C	207	956,247	617,644	2,500,000	3,990,918
Loyola Coll., Montreal.....	Catholic.....	1896	J. F. MacCaffrey.....	27	400M	70	28,305	362,225	.....	1,035,872
Macdonald Coll., St. Anne de Bellevue.....	Private.....	1907	W. H. Brittain.....	58	824C	149	40,000	.....	.....	.....
McGill Univ., Montreal.....	Private.....	1821	F. Cyril James.....	1,012	7,042C	3,312	477,559	6,084,813	43,984,245	17,001,692
Notre Dame Coll., Montreal.....	Catholic.....	1869	Fr. J. A. Riendeau.....	11	658M	.....	5,200	230,600	.....	838,379
Univ. of Bishop's Coll., Lennoxville.....	Private.....	1845	John H. Molson.....	17	210C	14	25,000	140,511	1,766,555	310,089
Univ. of Montreal, Montreal.....	Catholic.....	1876	Msgr. J. Charbonneau.....	1,412	.....	.....	.....	.....	.....	.....
Saskatchewan										
Regina Coll., Regina.....	Provincial.....	1911	S. Basterfield.....	18	190C	13	13,548	117,200	0	895,000
St. Thomas More Coll., Saskatoon.....	Catholic.....	1936	Henry Carr.....	7	180C	0	.....	.....	.....	.....
Univ. of Emmanuel Coll., Saskatoon.....	Ch. England.....	1879	S. C. Steer.....	3	27M	10	8,000	.....	.....	.....
Univ. of Saskatchewan, Saskatoon.....	Provincial.....	1907	James S. Thomson.....	200	4,497C	2,263(c)	107,000	2,890,537	4,701	177,550

For list of notes and abbreviations see p. 694.

citizen of the United States, the largest single contributor of UNRRA's resources under a formula which recommended to non-invaded member nations that they contribute in effect 2 percent of their national income computed for the year ending June 30, 1943.

The governing bodies of the Administration consisted of the Council, composed of representatives of the 48 member nations, which held six sessions, the last in December, 1946; and the Central Committee, composed of representatives of nine member nations (Australia, Brazil, Canada, China, France, U.K., U.S., U.S.S.R. and Yugoslavia) which acted for the Council in making policy decisions during the liquidation period. By the end of 1948, UNRRA had made substantial progress on its main remaining task of obtaining the necessary documentation to support the contributions of supplies and to complete accounts. Moreover, by an agreement of September 27, 1948, with the United Nations, which was approved by the General Assembly on November 18, it arranged for the transfer of its records to the United Nations, the completion of a three-volume history of UNRRA operations, and absorption of all residual functions by March 31, 1949.

Despite postwar dislocations, shortages of goods, strikes, and the fact that much of the contribution was non-convertible or could be utilized only in indigenous surpluses, UNRRA was able to utilize more than 98 percent of its resources and the member nations decided that residual funds of approximately \$45 million should be turned over to successor international agencies, especially the International Children's Emergency Fund, which received upwards of \$30 million in various currencies, chiefly dollars. Other international agencies which shared in residual UNRRA funds include the Food and Agriculture Organization and the World Health Organization, which carry forward activities once performed by UNRRA. The long range rehabilitation projects initiated by UNRRA in China have been continued under the administration of the Board of Trustees for Rehabilitation Affairs of the Republic of China to which \$5 million of UNRRA funds have been transferred. It is expected that the final financial report covering the entire period of the operation together with the report of Council's auditors, Messrs. Deloitte, Plender, Griffiths & Company, will be published in February, 1949.

—THOMAS J. MAYOCK

URUGUAY. A republic of South America. Lowland plains border the southern and eastern coasts, but most of the country is a land of hills and undulating plains. The climate is temperate.

Area and Population. Area, 72,153 square miles. Population, 2,300,000 (1947), of which about 90 percent are of European descent and the rest are mestizos. The largest cities are Montevideo (capital), Paysandú, and Salto.

Education and Religion. The constitution guarantees freedom of worship. Roman Catholicism is the predominant religion. Spanish is the official language. Over 65 percent of the total population is literate. The most recent statistics show 245,129 students enrolled in 1,800 primary schools, and 27,000 students in 90 public secondary schools and 37 private ones. Higher education is provided by the National University.

Production. The country's economy is based on stock-raising and agriculture, with some industries devoted to the processing of meat, wool, hides, and bistles, and manufacturing of consumer goods. The wheat crop in 1947 was of an unusual size,

amounting to 450,000 metric tons. Wool exports in the same year totalled 135,312 bales. Other lines of agricultural production in 1946 were (in tons): corn, 139,882; flaxseed, 83,227; rice, 29,048; and barley, 10,502. Exports of meat and meat products in 1946 were valued at 44,205,000 pesos (controlled selling rate, November, 1948: \$U.S. = 1.899 pesos). Consumer goods include beverages, chemicals, clothing, paper, rubber products, textiles, tobacco, vehicles, and transportation equipment.

Foreign Trade. Exports in 1947 amounted to \$162,500,000 and imports to \$215,300,000. The principal buyers were the U.S., Great Britain, France, Holland, Switzerland, and Brazil, and the chief exporters to Uruguay were the U.S., Brazil, Great Britain, Argentina, and Peru.

Transportation. The railway system has a total of 3,000 kilometers of track, and carries an annual average of 2,500,000 tons of freight and 6 million passengers. Highways and roads have a combined length of 8,514 miles. La Plata River provides good inland transportation as far as the port of Salto. Air service is rendered by two Uruguayan companies as well as important international airlines. Recent statistics place motor vehicle registration at 65,121. There were 125,000 radio sets, and 46,656 telephones. On Mar. 2, 1948, the government purchased the British-owned railroad for £7,150,000.

Financo. The 1946 budget was liquidated with a deficit of 25,221,000 pesos, as expenditure mounted to 208,853,000 pesos and revenue was only 183,632,000. Currency in circulation in September, 1948 was 200,100,000 pesos. Bank deposits were 333,500,000 pesos and gold reserves \$181,000,000. The cost of living in July, 1948, was 177 (1937 = 100).

Government. The constitution of 1934 (amended in 1942) establishes a semi-parliamentary type of government with proportionate representation both in Congress and in the Cabinet. Legislative power is exercised by the General Assembly, composed of two Chambers, one of Representatives and the other of Senators. Executive power is vested in the President, acting with a Council of Ministers. President Luis Batlle Berres took office in August, 1947, replacing President Tomás Berreta, who died in office.

Events, 1948. Small and democratic Uruguay, in contrast with most of her sister republics, had a peaceful year.

Domestic Front. President Batlle Berres' administration had no important political issues to face during the year. The shortage of dollar exchange affected Uruguay, as it did the rest of the continent, and the Bank of the Republic closed its operations on the open market on August 10 but opened again on September 7 with the announcement of a devaluation of the peso, and established the price of the dollar at 2.20 Uruguayan pesos (the previous quotation was 1.90). The measure was aimed at preventing the export of dollars from the country.

In September, Uruguay, the only country in the western hemisphere where all schools, including college and post-graduate work, are free, introduced another innovation in the educational system by organizing two important associations of teachers and professors. These institutions were grouped in the Uruguayan Federation of Teachers, keeping close contact with the government through the National Educational Council. It was agreed that two annual congresses would be held, one in the capital and one in the interior, in order to consider educational problems of all natures and report to the government for action.

International Front. The Uruguayan delegation was active in the meetings of the United Nations, especially in the General Assembly held in Paris in the fall. Uruguay also took an active part in the Ninth Inter-American Congress held at Bogotá in April (see PAN AMERICAN ACTIVITIES), and signed the Charter of the Americas.

One of the characteristics of Uruguayan foreign policy during the year was the firm position taken against the admission of Franco Spain to the United Nations. Delegate Carlos Martini Ríos stated that there have been no changes in Spain that call for a reconsideration of his country's policy toward Franco. The publication of this statement by newspaper *Acción* of Montevideo caused a diplomatic protest by Franco's Chargé d'Affaires Marqués de Orellana, but the attitude of the Uruguayan government remained unchanged.—MIGUEL JORRÍN

U.S. ELECTIONS. On Nov. 2, 1948, Harry S. Truman, Democratic candidate to succeed himself, was elected President of the United States. In the closest contest since the Wilson-Hughes race in 1916, President Truman received 49.58 percent of the popular vote, a plurality of 2,148,125, and 304 electoral votes, to 189 for the Republican standard-bearer, Governor Thomas E. Dewey of New York, and 38 electoral votes for Governor J. Strom Thurmond of South Carolina, candidate of the States' Rights Democrats. Truman's popular vote was 24,045,052; Dewey's 21,896,927; Thurmond's, 1,168,687; Wallace's (Progressive), 1,137,957; Thomas' (Socialist), 95,908; Watson's (Prohibition), 95,075; Teichert's (Socialist Labor), 24,653; Dobbs' (Socialist Workers), 9,005; other, 15,953.

The total vote cast in the presidential race was 48,489,217—less than one percent more than the 48,025,684 cast in the 1944 wartime election. Governor Dewey carried 16 States: Connecticut, Delaware, Indiana, Kansas, Maine, Maryland, Michigan, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Oregon, Pennsylvania, South Dakota, and Vermont. Governor Thurmond carried Alabama, Louisiana, Mississippi, and South Carolina. Truman won the electoral vote of the remaining 28 States.

The Democrats regained control of both houses of Congress, lost to the Republicans in the 1946 election. In the House of Representatives, 263 of the 435 seats went to Democrats, to give the party its largest majority in the lower house since 1938. Of these, 75 were held previously by Republicans and one by the American Labor Party. Republicans won 171 seats and the American Labor Party, one. In the Senate, the Democrats won 9 seats previously held by Republicans and won 15 other contests, while the Republicans retained 9 contested seats. The Democrats now have 54 Senators; the Republicans 42.

State Elections. During 1948, Democrats elected 21 governors to 13 elected by Republicans (including one Democrat elected in Louisiana on April 20th, and one Republican in Maine, elected September 13th). The Republicans also picked up the Wyoming governorship when the incumbent Democratic governor was elected to the Senate and was succeeded by the Republican Secretary of State. As a result of these changes, the previous even division of governorships among Democrats and Republicans was broken. At present there are 29 Democratic governors and 19 Republicans, the largest majority for the Democrats since before the 1940 elections. In 8 States—Connecticut, Delaware, Illinois, Indiana, Massachusetts, Michigan, Montana, and Ohio—the voters replaced Repub-

lican governors with Democrats. Only Utah and Washington bucked the trend and elected Republicans to posts previously held by Democrats. An unusual feature of the 1948 election was the large number of States which elected a governor of one party while casting its electoral vote for the candidate of an opposing party. Democrats elected governors in Connecticut, Delaware, Indiana, and Michigan, but the electoral vote went to Dewey; and they elected a governor in Louisiana, the electoral vote of which went to Thurmond. Republican governors were elected in Iowa, Minnesota, Utah, Washington, and Wisconsin, but the electoral vote went to Truman in these States.

Significant changes occurred in the control of the State legislatures. Prior to the November election, Republicans controlled the lower house in 27 States and the senate in 27 States, while Democrats were in the majority in 19 lower houses and 18 senates—the Washington Senate having an equal number of each party. (The legislatures of Minnesota and Nebraska are non-partisan.) In the 1948 election, Republicans lost control of the lower house to Democrats in Colorado, Illinois, Indiana, Massachusetts, Missouri, Montana, Ohio, Utah, and Washington; and the Wyoming lower house was evenly divided. Democrats now control 28 to 17 for the Republicans, and one tie. Control of the State senates now is evenly divided, each party organizing 22 of them, with 2—Massachusetts and Rhode Island—tied. The Republicans lost senate control in these two States and Connecticut, Idaho, Missouri, and Ohio, while gaining control in Washington, previously tied. As frequently happens when a major shift in voter sentiment is registered, control of the legislatures in a large number of States became divided. In Colorado, Connecticut, Idaho, Illinois, Indiana, Montana, Nevada, and Washington, Republicans control one house and Democrats the other. This divided control is a result of two major factors: (1) variable bases of representation; and (2) staggered terms for the members of one house.

Unusual Aspects. The 1948 election presented several unusual aspects.

First, the Democrats won the presidency, control of Congress, and predominance in more than half of the State governments in spite of public opinion polls which indicated a Republican victory.

Second, Truman's victory was won in spite of—some commentators have said because of—electoral vote losses to the States Rights Democrats in four southern States, and sizeable defections to the Wallace Progressive ticket in a number of northern States, notably New York and California.

Third, the electoral vote pattern, without precedent in American history, revealed unexpected strength for the Democratic ticket, particularly in the agricultural Middle West and Plains States where Dewey lost the votes of Colorado, Iowa, Ohio, Wisconsin, and Wyoming which were his in 1944.

The heavily urbanized and industrialized States of the Northeast, from Maryland to the Canadian border with the exception only of Massachusetts and Rhode Island cast their electoral votes for Dewey. In only one of these—New York—was the Wallace vote apparently decisive in swinging the State to Dewey. Congressional and State candidates on the Democratic ticket were more successful in these States.

The States of Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio, West Virginia, and Wisconsin—in the Great Lakes-Ohio River-Upper Mississippi River region—appear to

have given the decisive margin of victory to the Democratic Party. Collectively, these States gave Truman 120 electoral votes to 32 for Dewey; they gave the Democrats 5 of their 9 new Senate seats; they elected 39 of the 75 Democrats who replaced Republicans; and they exactly reversed the number of governors, from 7 Republicans and 3 Democrats to 7 Democrats and 3 Republicans.

—HERBERT L. WILTSEE

U.S. RADIO BROADCASTING. During the year 1948 the numbers of broadcast stations and radio families continued to rise. In the station field, including AM, FM, and TV, authorizations made by the Federal Communications Commission increased to 3,215 from 3,024 for the previous year. Of this number, there was an increase of 165 for AM stations, an increase of 51 for TV, and a decrease of 46 for FM stations.

Of 39,950,000 families in the United States, 37,623,000 were said to be radio families, owning at least one set. More than 10 million automobile radios were in use, as well as about 5 million sets in stores, hotels, offices, and institutions. A total of more than 75 million radio sets was in use, and radio families had increased by 12,500,000 during the previous ten years.

It was a year of growth for broadcasting, especially in television. With a total of 50 television stations actually in operation and over a million television sets produced since the end of the war, great events were brought to the public by television—the World's Series, the political conventions, the football games, the opening night of the Metropolitan Opera, and greatly improved dramatic and variety programs.

Standard radio also continued to grow and improve, its numbers exceeding the total number of newspapers in the United States. A noteworthy event of the year was the adoption at the 26th Annual Convention of the National Association of Broadcasters of the "Standards of Practice" as a guide to good taste in programming, effective July 1, 1948, with due regard to contracts in effect May 19, 1948, but no later than May 19, 1949.

American broadcasters contributed to the national public interest in such programs as the first annual Voice of Democracy contest for the best five-minute broadcast scripts on the subject, *I Speak for Democracy*. High school students from all over the country entered and the four national winners were brought to Washington for a week to receive their awards of college scholarships and for visits with President Truman, the cabinet, and members of Congress.

Radio programming during the year produced continued experiments in documentaries, such as the continuing NBC series, "Living—1948," the ABC "Communism" program, the CBS and ABC venereal disease documentaries, and the MBS civil rights program. On the whole, news and comedy and variety programs continued most popular, with music of all types claiming its usual 40 to 50 percent of all broadcasting time.

Other electronic developments in radio broadcasting demanded attention during the year, such as facsimile broadcasting, ultrafax and transit radio. Facsimile, while as yet available in only a few cities, makes possible having your newspaper produced right in your home or office. An ultrafax, the new RCA development, by a combination of radio, television and highspeed photography, makes possible the transmission of enormous volumes of written or printed material. It has been said that ultrafax can send a million words a minute.

In the case of transit radio, by a contractual relationship between one FM station in a community and the local transportation company, FM receivers, locked to the frequency of the contracting station, are placed in the buses or street cars of the system, and music, news and advertisements are broadcast by the station for the transit riders. Successful operation began in several cities last year and indications are that the service will expand. Extensive surveys, conducted in a number of metropolitan areas, indicate that about 92 percent of the users of transportation systems would like to listen to transit radio while they ride.

There was substantial evidence that all phases of broadcasting, AM, FM, facsimile, and television continued to hold the high regard of the American people. A new edition of the National Opinion Research Center's national survey, conducted by the NORC at the request of NAB, was published by Prentice-Hall at the year's end, under the title *Radio Listening in America*. The survey found 78 percent of the American people were found to be opposed to Federal regulation of radio advertising; 65 percent opposed government control of programming on controversial issues; 59 percent opposed Federal control of accuracy of radio news, and 52 percent were against control of radio station profits. A total of 76 percent said they would prefer radio as it is now, with advertising, to commercial-less radio for which they would pay a \$5 annual license fee.

The entire radio industry's gross billings for sales of time in 1948, according to NAB estimates, increased 6.5 percent from \$374,086,686 in 1947 to \$398,560,000 in 1948. This rise in revenue was

Type of revenue	1947 (FCC figures)	1948 (Estimates)	% Gain
National Networks . . .	\$127,713,942	\$133,461,000	4.5
Regional Networks . . .	7,012,680	7,714,000	10.0
National Spot	91,581,241	100,730,000	10.0
Local Retail	147,778,814	156,040,000	6.0
	\$374,086,686	\$398,560,000	6.5

* Includes "miscellaneous networks and stations."

more than offset by an increase in operating expenses which raised station expenses about 10 percent, from \$121,200,000 in 1947 to \$233,200,000 in 1948. Broken down by types of advertising revenue, the figures were as shown in the accompanying table.

UTAH. A mountain State. Area: 84,990 sq. mi. Population: (July 1, 1948) 655,000, compared with (1940 census) 550,310. Chief city: Salt Lake City (capital), 149,934 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$54,802,000; total expenditure, \$53,449,000.

Elections. Truman won the 4 electoral votes with a popular majority over Dewey and Wallace about half as large as Roosevelt's 52,000 in 1944. There was no Senate race. Democrats won the 2 House seats for a gain of 1. Incumbent Democratic Governor Herbert B. Maw was defeated for reelection by J. Bracken Lee, Republican. Other state races were won by: Secretary of State—Ileber Bennion, Jr.; Attorney General—Clifton D. Vernon; Treasurer—Ferrell H. Adams; Auditor—Reese M. Reese; Superintendent of Public Instruction—E. Allen Bateman.

Officers, 1948. Governor, Herbert B. Maw; Lieut. Governor, Noug; Secretary of State, Ileber Ben-

nion, Jr.; Attorney General, Grover A. Giles; State Treasurer, Reese M. Reese; State Auditor, Ferrell H. Adams.

VATICAN CITY. A sovereign state of 44 hectares (108.7 acres) in northwest Rome created by the Lateran Treaty of Feb. 11, 1929. The population is not given in the 1948 *Annuario Pontificio* but it is close to 1,000 for the state proper, exclusive of the 12 extraterritorial areas in and about Rome. The sovereign is His Holiness, Pope Pius XII (Eugenio Pacelli), born in Rome on Mar. 2, 1876, and elected to the Papacy on Mar. 2, 1939.

The state is regulated by a *Legge fondamentale* of June 7, 1929. Its Governor, Marchese Camillo Serafini, has held office since 1929. He is assisted by a General Counselor and a Technical Consultant. The state has its own flag, import duties, police, coinage (which did not circulate in 1948 due to the disappearance of metallic money in Italy), newspaper, radio station, railway, telegraph, and postal systems.

Vatican City serves as the "territorial basis" for the Holy See in its government of the Catholic Church. This government functions through 11 congregations, 3 tribunals, and 4 offices, which together constitute the Roman Curia. The Secretariat of State, most important of the 4 offices, is normally headed by a Cardinal Secretary. However, the post has been vacant since the death of Cardinal Maglione in 1944. Two substitutes (Msgrs. Tardini and Montini) handled the affairs of the office during 1948. Through this Secretariat, the Holy See maintains diplomatic relations with foreign states.

The President of the United States and 38 governments were represented at the Vatican in 1948. In turn, the Holy See had 37 nunciatures or internunciatures and 21 apostolic delegations (these latter without diplomatic status) in foreign capitals. June, 1948, saw the establishment of diplomatic relations with India.

Events, 1948. Three tendencies have marked Vatican policy during this year: a growing emphasis upon the positive nature of the Christian programme, an intensification of the struggle with Communism, and a deep interest maintained in world problems.

At an audience for the Catholic *Avanguardia* Movement on January 4, Pius XII asserted that it is the duty of every Christian to work towards the establishment of a sound social order and he observed that the place of the Church is with the advance guard where the decisions are made.

Speaking to the College of Cardinals on June 2, His Holiness noted a reawakening of the Christian spirit and urged that it extend to all fields, national and international, which involve moral issues. He appealed to the Catholics of the world not to rest upon good intentions but to work steadfastly at putting them into practice. He warned that where such efforts coincide with those of political groups they must be "parallel, but no more, without identification and without subordination." In the address of June 29 to 60,000 members of ACLI (Christian Association of Italian Laborers), the Pope maintained that the growth of the organization was significant if it meant "that Christ has grown with each of you in the world of labor."

The contest with Communism was highlighted in connection with the Italian elections. On February 22, during an audience with 1,600 transportation workers, Pius XII stressed that irrespective of what a Catholic is told by propagandists, he cannot reconcile materialistic maxims with the

teaching of his Church. Addressing 300,000 Romans in St. Peter's Square on Easter Sunday, the Pope warned that "the hour of the Christian conscience has struck" and urged his hearers to follow that conscience.

The struggle took a bitter turn on April 3 with the publication by the Italian leftist press of "Secret Documents of Vatican Diplomacy" which scored the Church's leaders. In long articles, the Vatican's *Osservatore Romano* assailed the authenticity of the "Documents" until on April 11 one Virgilio Scattolini confessed that he had fabricated the pieces. This sudden collapse of the leftist campaign was not without effect upon the elections of April 18-19 which registered a distinct set-back for the Marxist Popular Front. Some months later the contest flared again when the Communist press interpreted the visit on October 19 of the then United States Secretary of State Marshall to the Pope as an effort to line up Vatican support behind the Marshall Plan.

At the close of the year, the December 27 arrest of Cardinal Mindszenty in Budapest on charges of plotting the overthrow of the Hungarian Communist government and the Vatican's immediate excommunication of all Catholics involved in the seizure pointed toward a violent phase to the struggle in 1949.

The Pontiff continued to interest himself deeply with international affairs. In his March 7 address to the Congress on International Exchange meeting in Rome, Pius XII laid down Christian principles for world trade. On November 11, he assured delegates of the European Union of Federalists of his sympathy with their program but he pointed out the need of first achieving economic peace in Europe before attempting political union. The papal encyclical of October 24 condemned violence as a solution to the Palestinian problem and called for the granting of international status to the holy places of Jerusalem.

In the ecclesiastical sphere, His Holiness proclaimed on June 2 that 1950 would be kept as a Holy Year. His "Motu proprio" of August 15, requiring a Church ceremony for all baptized Catholics entering marriage, introduced one of the few changes in the Church's Code of Canon Law since its adoption in 1918. The death of 5 cardinals brought the membership of the Sacred College to 56 at the close of the year.—HENRY G. J. BECK

VENEZUELA. A republic of South America. The country is divided into four natural regions, the Venezuelan highlands, the Maracaibo lowlands, the Orinoco plains and the Guiana highlands.

Area and Population. Area: 352,143 square miles. Population: 4,398,000 (1947). Census enumeration in Venezuela does not include classification by race, with the exception of the nomadic Indians, composing about 3 percent of the population. Principal cities: Caracas (capital), 269,030 inhabitants (1941); Maracaibo, 112,519; and Valencia, 85,000.

Education and Religion. Freedom of worship is guaranteed by the constitution; Catholicism is predominant and Spanish is the official language. It is estimated that nearly 40 percent of the population is literate. In the school year of 1947-48 there were 5,805 elementary schools with an enrollment of 360,531 pupils; 132 secondary schools of various sorts with an approximate enrollment of 19,000, and 41 special schools with 5,118 students. The three universities in Venezuela had 3,366 students in 1945-46.

Production. Venezuela's economy depends chiefly

on agriculture and petroleum. The production of petroleum in 1947 totaled 62,364,000 metric tons, and accounts for approximately 90 percent by value of total exports. The principal agricultural products include coffee, cacao, sugar, tobacco, cotton, corn, wheat and tropical fruits. Coffee exports in 1947 consisted of 508,200 bags of 60 kilograms each, of which 412,865 were purchased by the United States. Stock raising is another important industry. The diamond output in 1947 amounted to 60,045.34 carats, more than three times that of the previous year. Other minerals produced included coal, gold, silver and platinum. Manufacturing is not highly developed, although consumer goods production has recently increased.

Foreign Trade. Venezuelan imports during 1946 were valued at 98,760,000 bolívares and imports at 1,626,000,000 bolívares. (The controlled value of the bolívar, 1942-1948 was U.S.\$0.2985.) Exports went principally to the United States, Curaçao, Aruba, Brazil, Colombia and Argentina. Venezuela's imports were mainly from the United States, Brazil, Argentina, Mexico and the United Kingdom.

Transportation. The railway system which comprises about 685 miles, carried 1,826,680 passengers and 530,545 tons of freight in 1946. There are 7,955 miles of highways of all kinds. Venezuela is connected by air with other countries by international airlines, and travel within the territory is provided by national companies, the most important of which is the Linea Aeropostal Venezolana.

Finance. The budget for the fiscal year of 1947-48 estimated revenue at \$409,142,260 and expenditure at \$361,217,543. Currency in circulation at the end of October, 1948, totaled 660 million bolívares; bank deposits amounted to 571 million bolívares; gold reserves, including treasury holdings, totaled 305 million bolívares, and the public debt on Jan. 31, 1948, was \$6,933,717. Cost of living in December, 1947, was 185 (1937 = 100).

Government. Under the constitution of 1947, Venezuela is a Federal Union of 20 States, a Federal District, 2 territories, and Federal dependencies. Legislative power is vested in a Congress consisting of a Chamber of Deputies of 160 members, and a Chamber of Senators of 40 members. Executive power is exercised by a president elected for a five-year term. On November 24, an army revolt overthrew President Rómulo Gallegos, and formed a provisional government headed by Lieut. Col. Carlos Delgado Chalbaud.

Events, 1948. Rómulo Gallegos, one of the outstanding authors of the continent and victor in the elections of Dec. 15, 1947, took office on February 15. Special missions from many countries attended the inauguration, and the new government outlined a policy, of which the salient points were political liberty to be preserved, as well as good relations with the Catholic Church; friendliness toward foreign capital; mediation between capital and labor, with protection for both; friendship toward all countries, and elimination of excessive bureaucracy.

The government party, Acción Democrática, was fully behind the President's program. In his first message to Congress, President Gallegos presented in detail the above-mentioned aspects of his program, and then took a trip to the United States, where he was enthusiastically received, and was granted an honorary degree of Doctor of Laws by Columbia University.

Domestic Politics. After the return of President Gallegos to Venezuela, the general opinion was that he would have a peaceful year ahead of him.

In a survey made in April by the *New York Times*, Venezuela, Argentina and Uruguay were the only three South American countries whose governments were considered stable. Communism was not powerful in Venezuela, and the government party expelled Communist members from the Executive Council of the strong oil workers' federation. Opposition to the Callegos government came from the COPEI party (Concentración de Organizaciones Políticas Electorales Independientes), composed of the wealthy upper classes and backed by the Catholic Church. The army, that had supported the provisional government under Betancourt, was thought to be solidly behind Callegos.

Army Revolt. On November 24, the government was overthrown by an army revolt, the leaders of which immediately formed a provisional military junta, headed by Lt. Col. Carlos Delgado Chaland. The event caused general consternation. President Callegos was kept under arrest for several days, and then permitted to leave the country for Cuba. On his arrival, he issued a statement accusing the foreign-owned oil companies of backing the plot, as they were dissatisfied with the government's increase in taxes. He also stated that the United States Military Attaché, Colonel Edward R. Adams, was not only cognizant of the movement but actually gave advice to the rebels. He explained that the army's sudden change was caused by his refusal of their request for him to exile ex-President Betancourt.

The new government immediately dissolved the Congress, State Legislatures, and Municipal Councils, whose members had been elected the previous year, and dismissed the Supreme Court as well. The Acción Democrática party was outlawed and numerous members arrested; strict censorship was established, and many newspapers closed. The United States State Department, as well as the oil companies, vehemently denied the Callegos accusations, and the State Department later condemned the use of force to overthrow the legitimate government. In Mexico, a large number of well-known intellectuals protested against the coup d'état, and that government promptly recalled the Mexican Ambassador from Caracas.

Representatives of Venezuela attended the Ninth Inter-American Conference of American States held at Bogotá in April (see PAN AMERICAN ACTIVITIES).
—MIGUEL JORRÍN

VERMONT. A New England State. Area: 9,564 sq. mi. Population: (July 1, 1948) 374,000, compared with (1940 census) 359,231. Chief cities: Montpelier (capital), 8,006 inhabitants in 1940; Burlington, 27,686. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$21,772,000; total expenditure, \$22,353,000.

Elections. Dewey, as in 1944, won the 3 electoral votes, with 75,926 votes to Truman's 45,557 and Wallace's 1,279. There was no Senate contest. The Republicans retained the 1 House seat. Incumbent Republican Governor Ernest W. Gibson was re-elected. Other State officers elected were: Lieutenant Governor—Harold J. Arthur; Secretary of State—Howard L. Armstrong; Treasurer—Levi Kelley; Auditor—David V. Anderson.

Officers, 1948. Governor, Ernest W. Gibson; Lieut. Governor, Lee E. Emerson; Secretary of State, Rawson C. Myrick; Attorney General, Clifton G. Parker; State Treasurer, Levi R. Kelley; State Auditor, David V. Anderson.

VETERANS ADMINISTRATION. An independent establishment of the United States Government, charged with administering benefits provided by law for a potential one-third of the nation's population—veterans of all wars and their families. VA operates a network of 126 hospitals for the treatment of ill and disabled veterans. In addition, beds in civil, state, and other federal hospitals are being used on a contract or agreement basis.

Veterans of all wars, discharged under conditions other than dishonorable, are entitled to hospital treatment under the following priority system: first, emergency cases; second, those with injuries or diseases incurred in or aggravated by military service, and third, those who state under oath that they are unable to pay hospital charges for treatment for nonservice-connected ailments. Veterans in the third category, if not emergency cases, must wait until beds become available.

On Nov. 1, 1948, a total of 93,541 beds were occupied in VA hospitals. An additional 12,221 beds were used by VA in other-than-VA hospitals for the care of eligible veterans.

VA provides education and training at Government expense to eligible veterans.

Those training under the G.I. Bill may choose their place of study or their job training establishment, if the institution or establishment has been approved by an appropriate State approving agency. They may train for one year plus a period equal to the time served in the armed forces between Sept. 16, 1940, and July 25, 1947. Maximum period of training allowed is 48 months.

Veterans with service-connected disabilities, in training under Public Law 16, receive extensive guidance from VA in selecting their courses and throughout their training. They may remain in training for as long as is necessary to restore their ability to work, up to a maximum of four years. In extraordinary cases, VA may authorize training for more than four years.

Veteran-students and job trainees under the G.I. Bill and Public Law 16 may be eligible to receive subsistence allowances. Monthly maximums for those studying full-time in schools are \$75 without dependents; \$105 with one dependent, and \$120 with more than one dependent. Maximums for job trainees are \$65 a month for those without dependents and \$90 for those with more than one dependent.

Additional allowances may be provided to Public Law 16 trainees, depending on their degree of disability and the number of additional dependents they have.

On Nov. 1, 1948, there were 2,186,092 veterans in schools and job-training establishments under the G.I. Bill. At the same time, 231,854 were in training under Public Law 16.

VA guarantees and insures loans for homes, farms, and businesses, up to a maximum of \$4,000 on real estate and \$2,000 on non-real estate loans. G.I. farm realty loans may be made repayable in up to 40 years; other realty loans, in up to 25 years, and non-realty loans, in up to 10 years.

By Oct. 25, 1948, a total of 1,486,080 G.I. loans of all types, amounting to more than \$8,000 million, had been made by private lenders with VA approval for guaranty or insurance. Ninety percent of the loans—or 1,337,548—were for homes; 48,034 were farm loans, and 100,498 were business loans.

VA administers a readjustment allowance program which provides financial assistance for jobless veterans, those partially employed, and those self-employed netting less than \$100 a month. A

totally unemployed veteran may receive \$20 a week; a partially employed veteran may receive up to \$20 a week less earnings above \$3. A self-employed veteran may receive \$100 a month, minus any net earnings during the month.

During the week ending Nov. 6, 1948, a total of 229,831 veterans claimed readjustment allowances for unemployment. During the week, State unemployment compensation offices paid out \$4,181,779 in VA readjustment allowances.

Claims for self-employment allowances totaled 46,204 during October, 1948. That month, unemployment compensation offices disbursed \$4,471,906 in self-employment claims.

VA conducts one of the largest mutual life insurance systems in the nation. Within the past eight years, the agency wrote nearly 19,600,000 National Service Life Insurance policies having a face value of \$152,500 million. On Oct. 1, 1948, about one-third, or 6,913,600, still were in force. Of these, 5,342,000 were term policies. The remainder had been converted to the half-dozen available permanent forms of insurance: ordinary life, 30-payment life, 20-payment life, 20-year endowment, endowment at age 60 and endowment at age 65.

VA, on Nov. 1, 1948, was paying monthly compensation and pensions to 2,263,296 disabled veterans and to 955,313 dependents of deceased veterans. Payments for disabilities range from \$13.80 to \$360 a month.

On that date, the following cases (living veterans) were on VA's rolls: Civil War, 42; Indian Wars, 674; Spanish American War, 104,660; World War I, 452,815; Regular Establishments, 44,389, and World War II, 1,660,716.

In addition to these functions, VA is charged with administering other benefits to veterans. Among them are a guardianship service; a program to provide homes for paraplegic veterans; conveyances at Government expense to amputees; burial benefits; and a contact service to advise veterans, their dependents, and beneficiaries on their rights and benefits.

Deadlines have been established for most World War II veterans benefits. For most veterans, G.I. Bill training must begin before July 26, 1951, and must end July 25, 1956. Disabled veterans may apply for Public Law 16 training at any time after their discharge, but in time to complete training by July 25, 1956. The deadline for applying for G.I. loans is July 24, 1957. Readjustment allowances may be claimed for any week ending on or before July 24, 1949, or two years after date of discharge, whichever is later, but not later than July 24, 1952.

An exception to these deadlines has been made for persons who enlisted or reenlisted under the Voluntary Recruitment Act. Those persons may count the entire period of their enlistment as war service for purposes of G.I. Bill benefits, regardless of the date the war was declared officially ended.

—CARL R. GRAY, JR.

VETERINARY MEDICINE. Foot-and-Mouth Disease in Mexico. A project of international interest in veterinary medicine, during 1948, was the program administered jointly by Mexican and United States officials to suppress an outbreak of foot-and-mouth disease in central Mexico. This highly infectious plague that attacks cloven-hoofed animals with devastating effects had appeared in the State of Veracruz late in 1946—the first time in many years that it had invaded North America, though it exists in over 50 countries of other continents.

The infection spread to 18 Mexican States during 1947 in spite of the efforts of a well organized staff of several hundred veterinarians and technical assistants to stamp it out by the slaughter and burial of infected and exposed herds. This method is eminently successful when applied early in an outbreak but good results are less certain if the disease has spread extensively, as was the case in the current instance before vigorous eradication measures could be put into effect.

During 1948 the joint Mexican-United States Commission in charge of operations developed a program embodying large-scale vaccination of healthy animals to confer resistance against the disease. Other elements of the program, carried over from the previous year, were constant inspections, disinfection, and quarantine. In addition the 1948 operations included the slaughter and burial of infected and exposed herds when found near quarantine lines and in other areas being "worked." Lacking vaccine of its own the Commission first contracted for supplies from laboratories in Europe and South America. When it became clear that the quantity from those sources would be insufficient for the program, involving the vaccination of millions of animals, the Commission established its own laboratories in central Mexico.

By October, 1948, the newly built and equipped laboratories attained the remarkable production of a million doses of vaccine monthly, and by the end of the year the output was about 50 percent more. The use of the vaccine as the key to control and eventual eradication of the disease met with better cooperation from the Mexican people than had the previous more drastic program based on large-scale slaughter.

Progress during 1948 included the vaccination of more than 1,500,000 cattle, sheep, goats, and swine and a reduction of the quarantined area by about 40,000 square miles, or more than a tenth of the total. The estimated number of animals still to be vaccinated exceeds 12 million. The officials directly in charge of the campaign against the disease are Oscar Flores, director, representing Mexico, and Harry H. Johnson, co-director, representing the United States. The civilian staff under their supervision numbers over 3,000. It is supplemented by units of the Mexican National Army, which perform protective and quarantine-enforcement duties.

The large-scale laboratory and field operations in Mexico have reduced previous apprehension that the dreaded disease might get out of control there and spread to other countries of North America. Foreign veterinary authorities, seeing in the developments a possible key to their own problems, have shown keen interest especially in the vast vaccination program, and several foreign officials have visited Mexico to obtain first-hand information.

United States Research on Foot-and-Mouth Disease Authorized. Allied to the situation in Mexico but fundamentally concerned with better protection of the United States from foot-and-mouth disease from any source was legislation, passed by the United States Congress in April, 1948, authorizing research on this malady (Public Law 496—80th Congress, Chapter 229, 2d session, S. 2038). United States veterinary officials responsible for suppressing outbreaks that may occur in the United States from time to time have long needed more scientific information than has been available from foreign laboratories.

The United States has never had a foot-and-

mouth disease laboratory of its own, largely because of public sentiment against experimenting with the highly infectious virus. But during 1948 the Bureau of Animal Industry of the United States Department of Agriculture received assurances from several European authorities that modern safeguards were fully adequate to control the infection. This view received support, also, from domestic research workers and representatives of the livestock industry who saw in such a laboratory an aid to United States defenses should an emergency such as germ warfare arise. The same groups held, likewise, that expanding commerce of all kinds with foreign countries, especially by airplane, required new scientific research as a basis for modern quarantine regulations and other improved security measures.

After extensive hearings Congress authorized the establishment of such a laboratory, with specified safeguards. The principal one was that it be on a coastal island separated from the mainland by deep navigable water. The selection of a suitable site and the development of detailed plans were in progress at the end of the year.

Veterinary Education. Increasing demands for well-trained veterinarians for both private and public service have caused veterinary medicine to be one of the least-crowded professions. During 1948, as in other recent years, private practice attracted most veterinarians. Government agencies, particularly the United States Department of Agriculture and the United States Army, have ranked next in importance as employers. For example, the meat inspection service of the United States Department of Agriculture required the services of about 900 veterinarians in 1948. Other noteworthy fields are State and municipal services, teaching, and the commercial preparation of veterinary biological products. Among the newer opportunities of specialized character is veterinary service for fur animals raised in captivity.

During 1948 training for the foregoing lines of work was provided by 10 colleges in the United States and 2 in Canada, accredited by the United States Department of Agriculture. Such accreditation signifies that graduates of those institutions are eligible for appointment for veterinary service in the Department. The accredited colleges of veterinary medicine in the United States and Canada are:

Alabama Polytechnic Institute, College of Veterinary Medicine, Auburn, Ala.
 Colorado State College, Division of Veterinary Medicine, Fort Collins, Colo.
 Iowa State College of Agriculture and Mechanic Arts, Division of Veterinary Medicine, Ames, Iowa.
 Kansas State College, Division of Veterinary Medicine, Manhattan, Kans.
 Michigan State College of Agriculture and Applied Science, Division of Veterinary Medicine, East Lansing, Mich.
 Cornell University, New York State Veterinary College, Ithaca, N.Y.
 Ohio State University, College of Veterinary Medicine, Columbus, Ohio
 University of Pennsylvania, School of Veterinary Medicine, Philadelphia, Pa.
 Agricultural and Mechanical College of Texas, School of Veterinary Medicine, College Station, Tex.
 State College of Agriculture, College of Veterinary Medicine, Pullman, Wash.
 University of Toronto, Ontario Veterinary College, Guelph, Ontario, Canada l'École de Médecine

Vétérinaire, Université de Montréal, Oka, Quebec, Canada.

During 1948 the 10 United States institutions had a total enrollment of approximately 2,350 students and conferred degrees on 141 graduates. Though encouraging veterinary education, the United States Government conducts no schools or courses in veterinary medicine, nor are there any officially accredited night schools or correspondence courses in that subject. During 1948 several new veterinary colleges were being established in other States.

License to Practice. As in previous years, all States and the District of Columbia and the provinces of Canada had laws and regulations governing the practice of veterinary medicine. Licensing tests or examinations are offered periodically to candidates seeking to qualify as practitioners. Registration is generally required, usually with the State board of veterinary examiners at the State capital.

Bovine Tuberculosis Eradication. In the cooperative Federal-State campaign against bovine tuberculosis, conducted systematically since 1917, the average degree of infection in 1948 was found to be 0.19 percent, which is a slight reduction from that reported for the two previous years. At the beginning of the campaign the corresponding figure was about 5 percent for the United States, though in some localities the proportion of tuberculous cattle exceeded 25 percent. Though this campaign has been eminently successful, sporadic outbreaks during 1948 again demonstrated the importance of retesting herds regularly so as to detect and remove promptly any infected animals before they spread the disease.

Progress in Eradicating Brucellosis. The eradication of brucellosis, or Bang's disease, from the cattle of the United States continues to be a major undertaking in veterinary medicine. Federal, State, and private veterinarians, together with county veterinarians in some areas, are participating in various aspects of this campaign.

Owing to extensive interest among cattle owners in the early eradication of the disease from their herds, where it has caused heavy losses, the demand for veterinary service has been unusually heavy, often exceeding the ability of public agencies to meet it. One major factor in the spread of this disease has been the addition, by many farmers, of cows of uncertain origin to clean herds in the effort to increase milk and beef production. The application of blood tests to more than 5 million cattle during the year disclosed approximately 4.3 percent of infection, which is slightly less than that found a few years ago.

The disposal of reacting cattle is covered by detailed regulations and in many States provision has been made for the payment of indemnities for condemned animals. Vaccination, particularly of calves, to increase their resistance to the disease is part of the campaign of control and eradication. During 1948 more than one million calves were vaccinated.

Equine Infectious Anemia Studied. A serious outbreak of infectious anemia among race horses in New England, in 1947, was the object of veterinary study continuing into 1948. It was the first time the disease had occurred among a large number of thoroughbred horses, hundreds of valuable animals at race tracks in Massachusetts, New Hampshire, and Rhode Island being involved. Measures outlined by the United States Bureau of Animal Industry, promptly put in force by State livestock officials, brought the outbreak under control. A thorough investigation indicated that biting

flies had played a part in the early spread of the disease and that further dissemination may have resulted from the use of contaminated hypodermic needles and other instruments that draw blood even in very small amounts.

Rabies Survey. The results of a survey on the extent of rabies in the United States, announced by the United States Department of Agriculture in 1948 though covering the previous year, showed dogs to be the principal animals affected. The data were compiled from information furnished to the Department by livestock sanitary officials or health officers in each State. Of 8,946 cases reported, 6,949 were dogs, 766 cattle, 40 horses, 15 sheep, 20 swine, 393 cats, 9 goats, 26 persons, and 728 animals either unclassified or miscellaneous. The last group included many species of wild animals such as coyotes, foxes, squirrels, and rats. States from which more than 500 cases of rabies were reported were Texas, Tennessee, New York, Louisiana, and Ohio. Those having no reported cases were Connecticut, Delaware, Idaho, Maryland, Massachusetts, Nevada, New Hampshire, North Dakota, Oregon, Rhode Island, South Dakota, Vermont, Washington, and Wyoming.

"X Disease" of Cattle Studied. A baffling cattle malady known thus far mainly as "X disease," although also given other tentative names, became the object of study, during 1948, by Federal and State livestock scientists. By the end of the year it had been reported from 32 States. Early symptoms of the disease include a watery discharge from the eyes and nose. As the malady progresses the appetite fails and there is loss of flesh and condition. The victim becomes depressed and a progressive thickening of the skin occurs. Because of the last symptom some pathologists have called the disease hyperkeratosis. The normal course of the malady is from several weeks to three months. Young stock appear to be more susceptible than adults. Severely affected animals usually die.

A preliminary survey of the disease in five Southeastern States by a group of scientists failed to show its cause. The scientists collected samples of soil, plants, and tissues from affected animals for further study. Until the cause of the strange disease is known, the scientists advise the quarantining, voluntarily, of affected herds as a protection to others on nearby farms.

Decrease in Pullorum Disease. The poultry malady, pullorum disease, which has long caused heavy death losses, especially among young chicks, is being reduced, in the United States, by the testing of breeding stock and the elimination of infected birds. Of 30 million chickens tested in 1948, approximately 1.9 percent reacted, indicating infection, as compared with 3.3 percent of a smaller number tested 12 years ago when the systematic suppression of the disease began. The tests are made as a part of the National Poultry Improvement Plan conducted jointly by Federal and State officials in cooperation with the poultry industry.

Of great value in this work is a simple, rapid, accurate diagnostic test developed in 1931 by the United States Department of Agriculture scientists. Although the disease is especially fatal to young chicks, it causes further losses through reduced hatchability of eggs, curtailed egg production, and deaths of hens from generalized infection. Since the main reservoir of the disease is the farm flocks that supply commercial hatcheries with eggs, Federal and State sponsors of the national plan have provided official recognition for progressive steps in eradicating the infection from individual flocks.

International Veterinary Congress Award. The International Veterinary Congress Award for 1948 was presented to Col. A. E. Cameron, Ottawa, Canada, for "long and distinguished service to veterinary medicine and to mankind and for his zeal to improve the profession." Col. Cameron was formerly Veterinary Director General of Canada. Presentation was made by Dr. W. A. Hagan, President of the American Veterinary Medical Association at its annual convention, held in San Francisco.

New Veterinary Books and Pamphlets. Much new literature on veterinary subjects appeared during 1948 both as individual documents and as articles in professional and livestock journals. The published material included: *Proceedings, 51st Annual Meeting of United States Livestock Sanitary Association*, (Waverly Press, Inc.); *Manual of Veterinary Bacteriology*, by R. A. Kelsor and H. W. Schoening, (Williams & Wilkins); *Diseases of Poultry*, edited by H. E. Brewster and L. H. Schwartz, 2d edition (Iowa State College Press); *Report of Chief of the Bureau of Animal Industry, fiscal year 1948*, by B. T. Simms (U.S. Government Printing Office); *Career Opportunities for Graduate Veterinarians in the Bureau of Animal Industry*, Miscellaneous Publications No. 671 (U.S. Government Printing Office). — DALE S. BUNCH

VIKING FUND, INC., The. This non-profit organization was created and endowed in 1911 by Axel Leonard Wenner-Gren for the promotion and support of scientific, charitable, and educational enterprises. Its main sphere of interest is the encouragement and support of research in anthropology and closely related sciences, and the meeting of educational and institutional needs for the propagation of these sciences. During the year ended Jan. 31, 1948, a total of 107 grants were awarded, including twelve Pre-Doctoral and Post-Doctoral Viking Fund Fellowships in Anthropology. The projects aided by grants are described in the Annual Reports of the Viking Fund, and are listed in the Cumulative Record of Grants printed therein.

During the year ended Jan. 31, 1949, a total of 106 new grants were awarded, including 24 Pre-Doctoral and Post-Doctoral Viking Fund Fellowships in Anthropology.

Publications: *Viking Fund Publications in Anthropology*, nos. 1-10; *Yearbook of Physical Anthropology*, 1945, 1946; and others resulting from projects supported in whole or in part by the Viking Fund (listed in Cumulative Record of Publications in Annual Reports). Prizes and awards: the Viking Fund Annual Awards in Anthropology, consisting of a medal and a cash award. Medalists for 1946 and 1947 were, respectively: Dr. A. L. Kroeber and Dr. Robert Harry Lowie for the American Anthropological Association; Dr. Franz Weidenreich and Dr. Earnest A. Hooton for the American Association of Physical Anthropologists; and Dr. A. V. Kidder and Dr. John Otis Brew for the Society for American Archaeology. President, Richard C. Hunt; Director of Research, Dr. Paul Fojas. Headquarters: 14 East 71 St., New York 21, N.Y.

VIRGINIA. A south Atlantic State. Area: 39,899 sq. mi. Population: (July 1, 1948) 3,029,000, compared with (1940 census) 2,677,773. Chief city: Richmond (capital), 193,042 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947,

total revenue amounted to \$152,482,000; total expenditure, \$156,704,000.

Legislation. The General Assembly met January 14 and adjourned March 30, having passed a record-breaking \$511 million biennial budget, 40 percent of which is derived from business operations and involves no tax money. Increased tax rates were placed on corporate and individual income, merchants, public service corporations, beer, and recording of deeds. Appropriations for education, public health, welfare, and care of mental defectives were increased.

A thorough reorganization of the executive branch was approved, reducing independent departments and agencies from 72 to 30. Improved and more economical administration is expected to result.

Other important enactments include \$2.5 million direct aid to localities for hospital and health center construction; increased unemployment compensation payments and greater coverage of workmen's compensation; stronger child labor laws; broader regulation of insurance; approval of the eight-State Ohio River pollution control compact; an airport channeling law; and submission to popular vote in November, 1949, of a constitutional amendment to repeal the poll tax.

Elections. Truman won the 11 electoral votes, also taken by Roosevelt in 1944, with a plurality over Dewey, Thurmond, and Wallace. Incumbent Democratic Senator A. Willis Robertson was reelected. Democrats retained the 9 House seats. There were no Statewide contests for State office.

Officers, 1948. Governor, William M. Tuck; Lieut. Governor, L. Preston Collins; Secretary of the Commonwealth, Mrs. Thelma Y. Gordon; Attorney General, Harvey B. Apperson; State Treasurer, Jesse W. Dillon; Auditor of Public Accounts, J. Gordon Bennett; Comptroller, Henry G. Gilmer.

VIRGIN ISLANDS, U.S. An insular possession of the United States, situated about 70 miles east of San Juan, Puerto Rico. This possession, acquired in 1917 for \$25 million through a treaty with Denmark, forms part of the chain of the Lesser Antilles which extends from Puerto Rico to the coast of South America. Of the 50 islands in the group only the three largest are inhabited—St. Thomas, St. John, and St. Croix.

Area and Population. Total area: 132 square miles. Population: 24,889. Individual islands (1940): St. Thomas, 28 square miles, 11,265 inhabitants; St. John, 20 square miles, 722 inhabitants; St. Croix, 84 square miles, 12,902 inhabitants. Of the whole population, 69 percent in 1940 were Negroes, 22 percent of mixed race, 9 percent whites. Vital statistics (1947): birth rate, 37.0; death rate, 16.3, per 1,000. Capital: Charlotte Amalie (on the island of St. Thomas), population 9,801 in 1940. The estimated population of the Virgin Islands at the end of 1947 as the result of a local survey was 30,000.

Education. For over a century education has been compulsory. At the present time all children between 5½ and 15 years of age are required to go to school. Free education is provided by the local government in the elementary grades through high school. In the fiscal year ended June, 1948, there were 27 schools for all grades with a total enrollment of 4,260 pupils. Most of the people speak English.

Defenses. The islands are the most eastern outpost of the United States and are so situated as to furnish protection both to United States' holdings in the Caribbean Sea and the Panama Canal.

The fine harbor of Charlotte Amalie provides shelter for as many as 23 warships at one time. Defenses constructed in this region during the past few years have been primarily to bulwark the great naval, military, and air bases in Puerto Rico.

They include a permanent United States Marine Corps air base near Lindbergh Bay on St. Thomas, a large submarine base at Charlotte Amalie Harbor, and a United States Army air base on St. Croix near Frederiksted. In December, 1947, the United States Navy removed its personnel and ceased operations of the Submarine Base and the Marine Corps Air Facilities at Bourne Field in St. Thomas. At the same time the United States Army ceased operations of the airport at Benedict Field, St. Croix. In April, 1948, the San Jose Project, a permanent installation of the United States Army Chemical Service, was transferred to St. Thomas from Panama and took over the former Naval Submarine Base.

Production and Trade. St. Thomas has largely depended upon commerce, trade and shipping for income. St. Croix has depended chiefly upon agriculture for its revenues. During the fiscal year ended June, 1948, St. Croix produced 4,350 tons of sugar, 1,400 tons more than the previous year. A total of 224,236.86 proof gallons of alcoholic beverages were exported from the Virgin Islands.

Public Finance. The revenue of the Municipality of St. Thomas and St. John amounted to \$517,581, almost the same as for the preceding year. Budget expenditures totaled \$965,733. Income tax collections were \$417,698, as compared with \$511,870 in the preceding year. The revenue of the Municipality of St. Croix was \$269,474, as compared with \$273,027 in the past year. Budgeted expenditure was \$456,893. Congress appropriated \$140,000 toward the expenses of local government in the Municipality of St. Croix. Income tax collections there amounted to \$103,070 as against \$86,232 in the previous year.

Government. During the first 14 years of United States control the Virgin Islands had a naval government. In 1931 jurisdiction was transferred from the Navy Department to the Department of the Interior and a civil governor was appointed by the President. Congress passed an Organic Act for the islands in 1936 which effected little change in the structure of the government although it did allow for a greater measure of political freedom. The autonomy of the two municipalities was retained and both have Municipal Councils, which when called in joint session, constitute the Legislative Assembly. The Governor is appointed by the President and holds office at his pleasure.

Governor in 1948 William Henry Hastie (inaugurated May 17, 1946). Other government officials are: Morris F. de Castro, Government Secretary; Louis Shulterbrandt, Commissioner of Finance; Francisco Corneiro, U.S. Attorney; and Herman E. Moore, District Judge of the District Court of the Virgin Islands.

Events, 1948. The outstanding event of 1948 was the commemoration of the one hundredth anniversary of the abolition of slavery in the Virgin Islands. At the official opening held in Charlotte Amalie on July 3, Governor Hastie read greetings from the President of the United States and from the King of Denmark. With the Governor, the Danish Ambassador to the United States, Mr. Henrik de Kauffman, was one of the principal speakers. President Harry S. Truman visited the Virgin Islands in February, and unveiled a plaque commemorating the Emancipation Centennial at Charlotte Amalie.

The Legislative Assembly provided for a Referendum on questions of basic importance in any revisions of the present Organic Act. Voters were given the opportunity to express their views on the popular election of the Governor, unification of the quasi-independent political districts of St. Croix and St. Thomas and St. John, and the election of a Resident Commissioner to the United States Congress.

—WILLIAM H. HASTIE

VITAL STATISTICS. In 1948, the number of births in the United States declined somewhat from the record high point recorded the previous year, according to provisional data of the National Office of Vital Statistics, in the Public Health Service of the Federal Security Agency. The crude birth rate was the second highest recorded in almost 30 years. The crude death rate estimated for 1948 was at

TABLE 1—NUMBER OF BIRTHS, DEATHS, MARRIAGES, AND DIVORCES—UNITED STATES, 1933-1948

(Births and deaths exclusive of stillbirths; divorces include reported annulments)

Year	Births	Deaths ^a	Marriages	Divorces ^b
1948 ^b	3,540,000	1,454,000		
1947	3,699,940	1,445,370	1,992,354 ^c	471,000 ^c
1946	3,288,672	1,395,617	2,291,045	610,000
1945	2,735,456	1,401,719	1,612,992	485,000
1944	2,794,800	1,411,338	1,452,394	400,000
1943	2,934,860	1,450,544	1,677,050	359,000
1942	2,808,996	1,385,187	1,772,132	321,000
1941	2,513,427	1,397,042	1,696,999	293,000
1940	2,360,390	1,417,260	1,595,879	264,000
1939	2,265,588	1,387,807	1,403,633	251,000
1938	2,236,062	1,381,391	1,330,780	244,000
1937	2,203,337	1,450,427	1,451,296	249,000
1936	2,144,790	1,479,228	1,369,000 ^b	236,000
1935	2,155,105	1,392,752	1,327,000 ^b	218,000
1934	2,107,036	1,396,903	1,302,000 ^b	204,000
1933	2,081,232	1,342,106	1,098,000 ^b	165,000

^a Data for 1940-48 exclude deaths among armed forces overseas. ^b Estimated. ^c Provisional.

the record low first set in 1946. The number of divorces in 1947 and the number of marriages in 1947 and 1948 declined from the all-time high in 1946, but remained well above prewar levels.

Natality Statistics. Provisional data for 1948 indicate that the second largest number of births in the history of the country occurred during the year. It is estimated that about 3,540,000 live births were registered in 1948, a decline of about 160,000

TABLE 2—CRUDE BIRTH DEATH MARRIAGE, AND DIVORCE RATES—UNITED STATES, 1933-1948

(Births and deaths exclusive of stillbirths. Rate per 1,000 estimated midyear population)

Year	Births	Deaths ^a	Marriages	Divorces ^b
1948 ^b	24.2	10.0		
1947	25.8	10.1	13.9 ^c	3.3 ^c
1946	23.3	10.0	16.4	4.3
1945	19.6	10.6	12.2	3.5
1944	20.2	10.6	11.0	2.9
1943	21.5	10.9	11.8	2.6
1942	20.9	10.4	13.2	2.4
1941	18.9	10.5	12.7	2.2
1940	17.9	10.7	12.1	2.0
1939	17.3	10.6	10.7	1.9
1938	17.6	10.6	10.3	1.9
1937	17.1	11.3	11.3	1.9
1936	16.7	11.6	10.7 ^b	1.8
1935	16.9	10.9	10.4 ^b	1.7
1934	17.2	11.1	10.3 ^b	1.6
1933	16.6	10.7	8.7 ^b	1.3

Note: Birth and divorce rates for 1940-46 based on population including armed forces overseas; after 1946, based on population excluding armed forces overseas. Death and marriage rates based on population excluding armed forces overseas, 1940-48.

^a Data for 1940-48 exclude deaths among armed forces overseas. ^b Estimated. ^c Provisional.

from the 3,699,940 registered in the preceding year. The 1948 estimated birth rate of 24.2 per 1,000 population (excluding the armed forces over-

seas) was 6 percent lower than the 1947 rate (25.8) and is the second highest recorded in almost 30 years. The estimated birth rate for the first six months of 1948 was about 10 percent below that estimated for the first half of 1947. In the second half of 1948, however, the monthly rate rose to the 1947 level.

As may be seen from Table 2, the trend since 1933, when the birth rate reached its lowest point in this country, is characterized by an irregular rise in the rate from 16.6 in 1933 to 17.9 in 1940, a more rapid rise to 20.9 in 1942, and a further rise in 1943 when the wartime peak rate of 21.5 was set. The decline in the rates during the next two years to 19.6 in 1945 erased about half of the rise which occurred during the period 1941-43 and may be attributed in large part to the assignment of millions of men in the armed forces to overseas posts. The demobilization late in 1945 and in 1946, the high marriage rate during this period, and the high level of economic activity account for the upsurge in the birth rate which occurred in the second half of 1946 and the record high rate in 1947. Favorable economic conditions undoubtedly were a factor in the continuation of a high rate in 1948.

Person in Attendance at Birth. The period 1935-46 was marked by a rise in the proportion of births attended by physicians, a sharp increase in the proportion of births in hospitals, and a decline in the proportion of births attended by midwives. The increased use of hospitals and physicians at birth has been a contributing factor in the decline in the infant mortality rate.

In 1946, 94.6 percent of all live births were attended by physicians, an increase of about 8 percent over the proportion (87.5) in 1935. A much larger change occurred in the use of hospitals. Between 1935 and 1946, the proportion of births attended by physicians in hospitals more than doubled, increasing from 36.9 percent in 1935 to 82.4 percent in 1946. The proportion of births attended by physicians outside hospitals decreased from 50.6 percent in 1935 to 12.2 percent in 1946. Midwives attended 5.1 percent of all births in 1946, a reduction of more than one-half from the 1935 proportion (10.7 percent).

In both white and nonwhite groups there has been a continued upward trend in the proportion of births occurring in hospitals. Over the 12-year period, the proportion of such births in each of these groups has approximately doubled. Nevertheless, in 1946 the proportion of births of white infants in hospitals (87.1 percent) was almost twice the proportion (45.2 percent) for nonwhite infants. This disparity is reduced to some extent if births attended by physicians outside hospitals are included. In 1946, 98.4 percent of all white births as compared with 65.2 percent of nonwhite births were attended by physicians in or out of hospitals. Midwives attended more than a third (33.8 percent) of the nonwhite births in 1946 but were of negligible importance (less than 2 percent) in white births.

Mortality Statistics. During the 3-year period, 1946-48, the crude death rate for the United States was at the lowest level ever recorded. The rate reached the record low of 10.0 per 1,000 population in 1946, then rose slightly to 10.1 in 1947. The rate for 1948 was estimated to be 10.0 on the basis of provisional figures for the first 10 months of the year.

The number of deaths and the crude death rate for the United States for 1933 to 1948 are shown in Tables 1 and 2 (figures for 1940-48 exclude armed forces overseas). In general, the rate rose

from 1933 to 1936, decreased in 1937 and 1938, and remained relatively level until 1946, when a further decrease occurred. In such comparison, however, account must be taken of changes in the composition of the population during these years, notably the gradual aging of the population, and, for the war years, the changes caused by the withdrawal from the population of physically fit men in the younger age groups for duty overseas with the armed forces. If allowance were made for the changes which occurred in the age composition of

States represented a decrease of 8.9 percent from the comparable figure of 1,526,783 issued in January–September, 1947. (See Table 4.) In major cities (cities of 100,000 or more population, or their counties), a total of 572,386 licenses issued during the first 11 months of 1948 was a decline of 8.7 percent from the comparable 1947 figure.

The crude marriage rate of 16.4 per 1,000 estimated population in 1946 was the highest ever recorded in the United States. The provisional 1947 rate of 13.9 represented a decline of 15 per-

TABLE 3—TEN LEADING CAUSES OF DEATH: 1900 AND 1947
(Rates per 100,000 estimated midyear population)

Death-Registration States: 1900 Cause of Death		United States: 1947 Cause of Death	
	Rate	Number ^a	Rate ^b
All Causes	1719.1	1,445,370	1007.8
Pneumonia and influenza	202.2	460,580	321.2
Tuberculosis (all forms)	194.4	189,811	132.4
Diseases of the heart	142.7	131,039	91.4
Cancer and other malignant tumors	137.4	80,288	56.0
Intracranial lesions of vascular origin	117.5	66,882	46.6
Nephritis	106.9	61,836	43.1
All accidents	88.6	48,064	33.5
Premature birth	72.3	41,053	28.6
Diabetes mellitus	64.0	37,515	26.2
Diphtheria	40.3	32,697	22.8

^a Excludes deaths among armed forces overseas. ^b Based on population excluding armed forces overseas.

the national population, it would be seen that mortality decreased from 1936 to 1947, with the exception of a rise in 1943.

Table 3 presents the number of deaths and the crude death rates for the ten leading causes of death in 1947 and the rates for the ten leading causes in 1900. (The data for 1900 are for 10 States and the District of Columbia.) The major mortality trends for the country may be seen here, namely: the decline in importance of the infectious diseases and the increased importance of the chronic diseases of old age.

At the turn of the century, pneumonia and influenza (combined) was the leading cause of death, with a death rate of 202.2 per 100,000 population. In 1947, this cause was in sixth place, with a rate of 43.1. Equally dramatic declines are seen for tuberculosis (from 194.4 to 33.5), diarrhea, enteritis, and ulceration of the intestines (from 142.7 to 5.6) and diphtheria (from 40.3 to 0.6). Tuberculosis dropped from second to seventh place as a cause of death, while diarrhea, etc., and diphtheria did not rank among the ten leading causes in 1947. These four causes accounted for 33.7 percent of the total deaths in 1900 as compared with only 8.2 percent in 1947.

During this period, the degenerative diseases of old age have come to the forefront. To these causes—diseases of the heart, cancer and other malignant tumors, intracranial lesions of vascular origin, nephritis, and diabetes mellitus—the overwhelming proportion of deaths are now attributed. In 1900, 23.7 percent of all deaths were attributed to this group of causes. By 1947, the corresponding proportion had risen to 62.2 percent. Important among the factors responsible for this marked increase are: the decline in mortality from infectious disease; the gradual aging of the national population; and improved methods for the diagnosis of chronic conditions.

Marriage Statistics. Although final figures on marriages in the United States are not yet available for 1948, provisional statistics on marriage licenses issued, which tend to approximate the number of marriages occurring, indicate that 1948 continued the decline from the all-time high in 1946.

During the first 9 months of 1948, a total of 1,300,240 marriage licenses issued in the United

States represented a decrease of 8.9 percent from the comparable figure of 1,526,783 issued in January–September, 1947. (See Table 4.) In major cities (cities of 100,000 or more population, or their counties), a total of 572,386 licenses issued during the first 11 months of 1948 was a decline of 8.7 percent from the comparable 1947 figure.

The crude marriage rate of 16.4 per 1,000 estimated population in 1946 was the highest ever recorded in the United States. The provisional 1947 rate of 13.9 represented a decline of 15 per-

TABLE 4—MARRIAGE LICENSES ISSUED IN THE UNITED STATES AND IN MAJOR CITIES: 1947-1948

	United States 1948 ^a	Major cities 1948 ^a	United States 1947	Major cities 1947
Total	2,014,843	673,440	2,014,843	673,440
January	129,682	46,377	150,481	52,139
February	111,858	34,210	138,252	43,551
March	130,471	45,531	138,592	46,195
April	140,321	49,868	159,351	55,302
May	155,946	55,829	180,235	64,543
June	213,719	76,194	227,948	80,466
July	161,065	49,940	162,778	52,504
August	175,267	62,672	185,113	64,851
September	171,911	57,195	184,038	61,186
October	..	43,178	166,700	54,571
November	..	46,392	159,338	51,374
December	..	..	162,022	46,758

^a Provisional.

midyear, estimated by the Bureau of the Census, and excludes armed forces stationed overseas. Overseas personnel have been excluded primarily because no figures are available on foreign marriages contracted by members of the armed forces.

During the 15-year period, 1933-47, marriages increased successively each year except in 1938, 1943-44, and 1947. (See Table 1.) A provisional total of 1,992,354 marriages in the United States in 1947 was 81 percent higher than the total of 1,098,000 registered in 1933. The peak of the rises came in 1946, for which an increase of 678,000 marriages over the 1945 total was larger than the increase of the 1945 total over the 1933 total.

Divorce Statistics. Divorces in 1947 dropped proportionately more sharply than marriages; the crude divorce rate of 3.3 per 1,000 estimated population in 1947 represented a decrease of 23 percent from the record high rate (4.3 per 1,000 population) of 1946. No divorce data for 1948 are available as yet.

For the years 1940-46, the population base used in computing divorce rates represents the total population of the United States as of midyear, estimated by the Bureau of the Census, including armed forces overseas. It was assumed that di-

TABLE 5—BIRTHS, DEATHS, MARRIAGES, AND DIVORCES, AND CRUDE RATES: UNITED STATES, EACH DIVISION AND STATE, 1947

(Births and deaths by place of residence, exclusive of stillbirths. Marriages and divorces, provisional data, by place of occurrence. Rates per 1,000 estimated total midyear population present in the area)

	Births	Deaths	Marriages ^a	Divorces ^b	Births	Deaths	Marriages ^a	Divorces ^b
United States.....	3,699,940	1,115,370	1,092,361	471,000 ^c	25.8	10.1	13.9	3.3 ^c
Geographic Divisions:								
New England.....	218,756	69,806	111,524	20,183	23.9	10.9	12.2	2.3
Middle Atlantic.....	678,005	316,374	326,176	—	23.1	10.8	11.1	—
East North Central.....	734,821	306,863	367,570	—	25.1	10.5	12.6	—
West North Central.....	339,765	141,390	175,927	41,927	24.8	10.3	12.8	3.1
South Atlantic.....	554,013	181,136	311,925	—	28.7	9.4	16.2	—
East South Central.....	321,172	103,521	188,160	—	29.7	9.6	17.4	—
West South Central.....	375,959	120,470	221,542	—	27.2	8.7	16.0	—
Mountain.....	136,785	43,624	142,612	—	31.1	9.9	32.5	—
Pacific.....	340,664	132,177	146,018	—	24.8	9.6	10.7	—
New England:								
Maine.....	23,873	9,959	11,152	3,929	27.0	11.3	12.6	3.3
New Hampshire.....	13,267	6,194	9,235	1,435	24.8	11.6	17.3	2.7
Vermont.....	9,708	4,378	4,324	751	26.5	12.0	11.8	2.1
Massachusetts.....	107,791	51,754	53,375	10,074	23.3	11.2	11.5	2.2
Rhode Island.....	18,536	8,368	9,337	1,540	24.9	11.2	12.5	2.1
Connecticut.....	45,581	19,153	24,111	3,451	23.1	9.7	12.2	1.7
Middle Atlantic:								
New York.....	323,250	157,734	164,522	—	22.8	11.1	11.6	—
New Jersey.....	100,242	48,181	55,803	9,074	23.0	10.4	12.1	2.0
Pennsylvania.....	248,513	110,459	105,852	16,285	23.6	10.5	10.1	1.5
East North Central:								
Ohio.....	197,311	82,254	93,770	29,263	25.7	10.7	12.2	3.8
Indiana.....	96,359	40,567	58,537 ^d	—	25.1	10.6	15.3 ^d	—
Illinois.....	190,007	93,686	108,461 ^d	—	23.3	11.2	12.9 ^d	—
Michigan.....	161,085	57,137	71,266	21,607	26.5	9.4	11.7	3.6
Wisconsin.....	84,059	33,219	35,527	5,920	25.9	10.2	10.9	1.8
West North Central:								
Minnesota.....	75,577	27,781	35,001 ^d	5,704	26.2	9.6	12.5 ^d	2.0
Iowa.....	68,858	26,484	30,004	6,742	24.6	10.2	11.6	2.6
Missouri.....	90,060	44,672	43,613 ^d	17,300 ^e	23.1	11.4	11.2 ^d	4.4 ^e
North Dakota.....	17,064	5,252	5,547	835	31.5	9.7	10.3	1.5
South Dakota.....	16,539	5,730	7,905	1,240	28.6	9.9	13.7	2.1
Nebraska.....	32,132	12,871	14,726	3,306	25.0	10.0	11.5	2.6
Kansas.....	44,535	18,700	38,141	6,800 ^e	23.1	9.7	10.8	3.5 ^e
South Atlantic:								
District of Columbia.....	7,717	3,345	5,133	830	26.5	11.5	17.0	2.0
Maryland.....	50,687	22,480	40,181 ^d	6,769	26.5	10.5	28.1 ^d	3.2
District of Columbia.....	21,080	8,254	12,775 ^d	2,080	25.2	9.6	14.8 ^d	2.4
Virginia.....	85,740	29,193	40,350	6,864	28.0	9.7	13.5	2.3
North Carolina.....	55,085	17,218	18,655 ^d	—	20.3	9.1	9.9 ^d	—
South Carolina.....	112,877	30,187	33,800 ^d	6,600 ^e	30.5	8.2	9.1 ^d	1.8 ^e
Georgia.....	59,470	17,230	48,357 ^d	—	30.5	8.8	24.8 ^d	—
Florida.....	94,944	28,946	68,715 ^d	—	30.3	9.2	21.0 ^d	—
East South Central:								
Kentucky.....	59,807	24,283	23,959	20,919	25.7	10.4	10.3	9.0
Tennessee.....	79,987	28,371	71,563 ^d	—	28.8	10.2	25.7 ^d	—
Alabama.....	86,619	28,591	17,157	9,184	28.0	9.2	5.0	3.0
Mississippi.....	88,116	20,347	45,960	10,399	31.1	9.3	16.2	3.7
West South Central:								
Arkansas.....	60,450	20,212	53,480	6,999	31.7	9.6	26.5	3.3
Louisiana.....	48,983	15,095	43,652	9,578	25.6	7.9	22.8	5.0
Oklahoma.....	74,630	23,395	32,909 ^d	—	29.3	9.2	12.9 ^d	—
Texas.....	53,684	19,327	21,183 ^d	—	23.5	8.5	9.3 ^d	—
Mountain:								
Montana.....	19,662	62,662	123,798 ^d	43,600 ^e	28.0	8.8	17.4 ^d	6.1 ^e
Idaho.....	15,086	5,700	9,765	2,439	30.9	11.8	20.0	5.0
Wyoming.....	16,265	4,780	8,029	3,400 ^e	31.0	9.1	15.3	6.5 ^e
Colorado.....	7,320	2,349	3,606	1,468	27.6	8.9	13.9	5.5
New Mexico.....	32,874	12,613	15,188 ^d	—	28.7	11.0	13.3 ^d	—
Arizona.....	20,322	5,471	14,813	3,160	37.2	10.0	27.1	5.8
Utah.....	19,153	6,032	25,600 ^d	2,400 ^e	29.7	9.4	30.8 ^d	3.7 ^e
Nevada.....	21,724	4,996	7,965 ^d	2,545	33.9	7.8	12.4 ^d	4.0
Pacific:								
Washington.....	4,041	1,623	57,550 ^d	13,800 ^e	20.1	11.7	414.1 ^d	99.3 ^e
Oregon.....	58,481	21,979	30,659 ^d	10,200 ^e	24.8	9.3	16.8 ^d	4.3
California.....	36,294	13,501	12,800 ^e	6,683	23.5	8.7	8.3 ^e	4.3
	245,889	90,697	94,459	—	25.1	9.9	9.6	—

— Data not available. ^a Excludes armed forces overseas. ^b Includes reported annulments. ^c Estimated. ^d Marriage licenses issued.

forces involving military personnel on overseas duty were for the most part granted in this country. The population base for divorce rates after 1946 excludes armed forces overseas.

A record total of 610,000 divorces was granted in the United States during 1946, while the 1947 provisional estimate was 471,000. In the period, 1933-47, divorces rose sharply, except in 1938 when a decline of 2 percent from the 1937 total occurred, and in 1947 when the decline from 1946 was 23 percent. (See Table 1.) Between 1933 and 1943, the number of divorces doubled, rising from 165,000 in 1933 to 359,000 in 1943 and from 1.3 divorces per 1,000 population in 1933 to 2.6 per 1,000 in 1943. The years 1945 and 1946 showed

a marked upward acceleration, followed by the 1947 decline.

HALBERT L. DUNNE

VOCATIONAL REHABILITATION, Office of. A unit of the Federal Security Agency which serves as the United States Government's agent in the State-Federal partnership for vocational rehabilitation of disabled civilians. The Office of Vocational Rehabilitation is responsible for certifying Federal grant-in-aid funds for the use of the States and Territories, establishing standards in the various areas of service, and furnishing technical and professional assistance to the State general rehabilitation agencies and those separate agencies serving the blind—87 in all. Vocational rehabilitation is

designed to restore, preserve or develop physically and mentally handicapped men and women of working age, including the blind, to the fullest possible physical, mental, social, vocational and economic usefulness.

Under the State-Federal partnership, services are provided for disabled civilians, and for veterans with non-service-connected disabilities, who are of working age, whose disabilities constitute substantial job handicaps, and who have reasonably good chances of becoming employable or more suitably employed through rehabilitation. The services include: (1) thorough medical examinations for all individuals to determine extent of disability, to discover hidden disabilities, to determine work capacity and to determine eligibility; (2) medical, surgical, and psychiatric treatment and hospital care to reduce or remove disability; (3) artificial appliances such as limbs, hearing aids, braces, and the like, to improve work ability; (4) individual counsel and guidance to help the disabled to select and attain the correct job goal; (5) training for the right job in schools, colleges, universities, on-the-job, in-the-plant, by tutor, or otherwise, to enable the individual to do the right job well; (6) maintenance and transportation during physical restoration and/or training, if necessary; (7) customary occupational tools, equipment and licenses to give the rehabilitated person a fair start; (8) placement on the right job; (9) post-placement follow-up to make sure the workers and the jobs match each other and that employers and workers are mutually satisfied. Services (1), (4), (5), (8), and (9) are provided without charge to all individuals, regardless of financial situation; public funds are used to provide the others to the extent that the individuals are unable to do so from their own resources.

During the last five years—from July, 1943, through June, 1948—219,039 disabled men and women have been rehabilitated by the State-Federal program to qualify for, to take, and to perform useful work, compared to a total for the past 23 years of 210,125 under limited legislative authority. On an average yearly basis, program gains during the last five years represent an increase in successful rehabilitations of almost 400 percent over the figure for the previous 23 years.

In the same five-year period, rehabilitation resulted in an estimated increase of more than \$900 million in earned income for this group. These rehabilitated people paid an estimated \$75 million into the Federal treasury in Federal income taxes alone.

To meet the annual toll of disabilities, from 200,000 to 250,000 rehabilitations a year would be required.

During the 1948 fiscal year, the most successful in the State-Federal program's 28-year existence, the State agencies served an all-time high number of disabled civilians, and also greatly enhanced the volume, quality, and diversity of the component services in the vocational rehabilitation program. By the end of the fiscal year 1948, the State agencies' caseload totaled 347,753 disabled persons. Of this number 53,131 were prepared for and placed in gainful employment, and their rehabilitation was declared completed; 9,229 received services and were working gainfully, but were receiving some degree of post-placement follow-up; and 7,396 were ready for employment. Approximately 118,000 disabled persons were undergoing the process of rehabilitation at the close of the 1948 fiscal year.

For the fiscal year 1948, the annual rate of earn-

ings for the rehabilitated group upon application for services—approximately \$17 million—rose to \$86 million during the first year after rehabilitation, an increase of approximately 400 percent. The post-rehabilitation earnings do not include those of some 6,000 rehabilitants who were engaged in farming or family work and whose earnings were not reported.

Twelve thousand of the successful rehabilitants during 1948 were employed at the time they applied for services but required rehabilitation for one of the following reasons arising from their disabilities: They were in danger of losing their jobs, were in jobs that were hazardous to them or their fellow workers, were working only part-time, or were in otherwise unsuitable employment.

—MICHAEL J. SHORTLEY

WAGE AND HOUR AND PUBLIC CONTRACTS DIVISIONS. These Divisions of the U.S. Department of Labor administer the Fair Labor Standards Act of 1938 and the Walsh-Healey Public Contracts Act.

The Fair Labor Standards Act, which is popularly known as the Wage and Hour Law, applies to employees engaged in interstate commerce or in the production of goods for interstate commerce, including occupations necessary to such production. All such employees, unless specifically exempted, must be paid not less than 40 cents an hour and not less than time and one-half their regular rate of pay for all hours worked in excess of 40 in a single workweek. Minimum wage rates up to 40 cents an hour have been established by wage orders issued on the basis of the recommendations of industry committees, for all industries in Puerto Rico, and for substantially all industries in the Virgin Islands under a section of the Act which permits rates lower than those established in the United States to apply in the Islands. The Act also prohibits the shipment in interstate commerce of any goods produced in establishments in or about which oppressive child labor is employed within 30 days prior to shipment. As of July 1948, the Act covered approximately 22,600,000 workers in the continental United States.

The Public Contracts Act, which applies to contracts made by the Government, or any agency thereof, for the manufacturing or furnishing of materials, supplies, articles, or equipment in any amount exceeding \$10,000, provides for the payment of prevailing minimum wage rates as determined by the Secretary of Labor, and overtime pay at not less than time and one-half the basic rate for all hours worked over 8 in a day or 40 in a week, whichever method of computation will yield the employee the greater compensation.

This Act also sets restrictions on child labor and prohibits convict labor, employment of home workers, and provides for standards of safety and health. In the fiscal year 1948, the Administrator also initiated a postwar resumption of the minimum-wage determination program under the Walsh-Healey Public Contracts Act. As a result of this program, a new determination for the Suit and Coat Branch of the Uniform and Clothing Industry became effective during the fiscal year and a public hearing was held on the amendment of the determination for the Cap and Cloth Hat Branch of the Men's Hat and Cap Industry.

The Portal-to-Portal Act relieves an employer from punishment or liability under the Fair Labor Standards Act and the Public Contracts Act for failure to pay minimum wages or overtime compensation for activities performed before May 14, 1947, unless the activities were compensable

by contract or custom or practice, and permits the compromise of remaining claims which accrued before that date. For the period on and after May 14, 1947, this Act sets a two-year statute of limitations for employee claims and relieves an employer from punishment or liability for his failure to pay minimum wages or overtime compensation for preliminary and postliminary activities, unless compensable under contract, custom, or practice. Under certain conditions, the Act allows employers "good faith" defenses against liability or punishment for non-compliance with the Acts.

During the fiscal year which ended June 30, 1948, 30,053 inspections were completed under both Acts and 29,024 establishments were found subject to their minimum wage or overtime provisions. Of the establishments inspected, 15,320 or 51 percent were in violation of the minimum wage or overtime provisions of the Acts. However, these figures should not be interpreted as representative of the extent of violations among all covered establishments since establishments are selected for inspection on the basis of complaints and other information indicating that violations probably exist.

Inspections during fiscal year 1948 disclosed a total of \$1,337,944 in back wages owed to approximately 184,400 employees in 15,320 establishments. Employers voluntarily agreed or were ordered by the courts to make restitution of \$4,256,800 to some 102,800 underpaid employees.

Since many establishments are covered under both Acts, it is impossible to give separate figures for restitution, which in many cases would be due under either Act. Of the 30,053 inspections completed during the year, 1,559 were made under the Public Contracts Act, all but 26 of which were concurrent with Wage-Hour inspection. Thirty-eight percent of the Public Contracts inspections disclosed violations of the minimum wage, overtime or child-labor provisions.

Under the Fair Labor Standards Act, oppressive child labor means in general the employment of minors under the age of 16 in any occupation, or the employment of minors under the age of 18 in any occupation found and declared hazardous by the Secretary of Labor. The Secretary of Labor is empowered, however, to provide by regulation or order for the employment of minors between 14 and 18 years in non-manufacturing and non-mining occupations, under conditions not interfering with their schooling, health or well-being. The child-labor provisions of the Public Contracts Act provide that no boy under 16 or girl under 18 shall be employed on Government contracts in excess of \$10,000.

Violations of the child-labor provisions of either or both Acts were found in approximately 5 percent of the total number of establishments inspected during the fiscal year. Of these, 1,384 violated the Fair Labor Standards Act by employing minors in oppressive child labor. As a result of employing 1,134 minors in violation of the Public Contracts Act, 99 firms were assessed liquidated damages amounting to \$162,000.

The Divisions are also charged with the inspection of safety and health conditions in those plants holding public contracts.

Proceedings for injunctions against future violations of the wage and hour and child-labor provisions of the Fair Labor Standards Act were instituted in 273 cases, while the criminal penalties which the statute provides for cases of wilful violation were invoked in 113 cases.

During the last fiscal year, a special industry committee for Puerto Rico recommended minimum

wage rates for 14 industries and the Administrator subsequently held public hearings on these recommendations to determine whether they were the highest rates (up to 40 cents an hour) which would neither result in substantial curtailment of employment nor give any industry in Puerto Rico a competitive advantage over any industry in the remainder of the United States. By the close of the fiscal year, the Administrator had put wage orders for five industries into effect, disapproved recommendations for two industries, announced his final adoption of orders for two industries to become effective after the close of the fiscal year, and proposed his adoption of orders for the remaining five industries.

The Fair Labor Standards Act provides that the Administrator shall submit annually to the Congress recommendations for further legislation in connection with matters covered by the Act as he may find advisable.

Accordingly, and on the basis of the Divisions' enforcement experience during the ten years the Act has been in existence, the Administrator recommends: (1) raising the minimum wage immediately and that provision be made for industry committee action to increase this minimum in those industries where it is economically feasible; (2) definition of the regular rate of pay; (3) prohibition of employment of child labor in commerce and direct prohibition of employment of child labor in the production of goods for commerce; (4) revision of the requirements for employment on an annual basis so as to make such employment agreements more flexible; (5) clarification of the exemption for retail or service establishments.

In addition, the Administrator favors simplifying the present complex system of exemptions which apply to the agricultural handling and processing industries by replacing them with a uniform overtime exemption for seasonal operations on an industry basis. It is also proposed that employees in the fish processing and handling industries, now exempt from both the minimum wage and overtime provisions, be accorded minimum wage protection; and that they be included in the overtime exemption as proposed for agricultural processing industries. The Administrator also recommends extending the minimum wage provisions to employees in transportation, and providing overtime benefits for non-operating employees in transportation.

WAKE ISLAND. A coral atoll in the mid-Pacific (19° 15' N. and 166° 35' E.), 2,004 miles west of Hawaii and 1,334 miles northeast of Port Apra, Guam. It comprises a group of three islands (Wake, Peale, and Wilkes) which enclose a shallow lagoon. Total land area: 4 square miles. By Executive Order dated Dec. 29, 1934, Wake Island was placed under the control and jurisdiction of the U.S. Navy Department. During 1935 Pan American Airways established a base on Wake, as a step in its trans-pacific air route.

WAR ASSETS ADMINISTRATION. The government's war surplus disposal agency geared its activities to virtual liquidation by the end of 1948. The Supplemental Independent Offices Appropriation Act of 1949 (approved June 30, 1948) provides for abolishment of War Assets Administration by Feb. 28, 1949. It terminated declarations of surplus property by owning agencies as of June 30, 1948, and terminated priorities and preferences in the disposal of personal property as of Aug. 1, 1948. The Administration set as its goal complete dis-

posals of consumer and producer goods, aircraft and electronics by the end of the year and the greatest reduction possible in real property and aircraft components by the end of February, 1949. Great progress was made in the reconciliation of records and accounts and reduction of operating expenses so that the government will receive the greatest net return from surplus property disposal and so that the remaining disposal functions may be transferred in an orderly manner to successor agencies.

As inventories dwindled, residuals became more difficult to sell. The ratio between operating expenses and returns from sales suffered accordingly. Freezes and restrictions placed on various disposals, because of national defense considerations and needs, slowed activities. On the other hand, elimination of priorities and preferences, firming of inventories, and the use of improved sales methods tended to speed accomplishment of the Administration's goals.

WAR CRIMES TRIALS. During 1948, trials for gross violations of the laws of war, for Crimes against Humanity and (against a few leading personalities) for Crimes against Peace, were conducted by many countries. In Germany, except for the U.S. Occupation Zone, the German courts were authorized to try Germans under the Allied Control Council Law concerning war criminals. In Belgium, the commutation of the death sentences of two quiescent Gestapo traitors caused the downfall of the Government. Britain prepared the trials of Generals von Brauchitsch, Rundstedt, and Mannstein for mass atrocities, maltreatment of prisoners of war, etc. (Brauchitsch died before the indictment was served.) A short summary of the most important of the 1948 trials in which the United States was involved, follows.

The Tokyo Judgment. In November, the Judgment was rendered in the historical trial against 28 Japanese political and military leaders, which had started before the 11-nation "International Military Tribunal for the Far East" on May 3, 1946. The Court was established, and the Charter under which it operated, issued by General MacArthur as Supreme Commander for the Allied Powers. It was the longest continuous trial ever—because of the number and complexity of the issues (covering events between Jan. 1, 1928, and Sept. 2, 1945, and an area extending from New Zealand to Berlin and from Manchuria to Washington, D.C.), the latitude given to the defense, the volume of evidence (transcript of the proceedings covers 48,412 pages), the language and translation problems, and the considerable time (6 months) needed to prepare the judgment.

In short, the defendants were charged with responsibility for Japan's aggressive wars against countries that opposed her drive to dominate East Asia and the Pacific and Indian oceans and their adjoining countries and neighboring islands; with a conspiracy to have Japan wage aggressive war against China and eight other countries, including the United States; and with a conspiracy with Germany and Italy to have the three Axis countries mutually assist each other in aggressive war (Crimes against Peace); and with wholesale murder and atrocities against prisoners of war and enemy civilians, with murder at Pearl Harbor and other places, and other violations of the law of war (War Crimes).

The Judgment (1,211 pages) carefully describes

why it found most of these charges to be established by the evidence (which evidence consisted mainly of contemporaneous Japanese documents). Of the 25 defendants found guilty (3 died during the trial, including Matsuo), the 2 Prime Ministers (Hideki Tojo and Koki Hirota), and 5 others (Kenji Dohihara, Seichiro Itagaki, Heitaro Kimura, Jwane Matsui, Akira Muto) were sentenced to death by hanging, 16 to life imprisonment, one to 20, and one to 7 years.

Tojo was found to "bear major responsibility for Japan's criminal attacks on her neighbors" (p. 1,207); being "associated with the conspirators as a principal in almost all of their activities" to conquer the vast areas from the East Indies to Australia and New Zealand. The Tribunal rejected Tojo's and the others' elaborate argument that all of Japan's acts constituted legitimate self-defense.

The main significance of the Tokyo judgment consists in the fact that it is the second international Court (the Nürnberg International Tribunal was the first) to uphold the principle that aggressive war is an international crime for which those guilty are punishable, and secondly to lay down findings as to what actions and what state of mind are required to constitute Crimes against Peace. (The Indian judge dissented, arguing that "Aggression" is not clear enough a concept, and that it was not declared to be a crime at the time the acts were committed. The majority decision, just as the Nürnberg decision, declared that it was.)

Some defendants appealed to the U.S. Supreme Court. Reversing its previous stand in war crimes cases, the Supreme Court decided, 5 to 4 (with Justice Jackson casting the decisive vote), to hear argument. After doing so, it decided to have no jurisdiction. Thereupon, on orders of General MacArthur the death sentences were carried out.

American Trials in Nürnberg. The series of 12 great trials before U.S. Military Tribunals which started late in 1946 (following the trial of the International Military Tribunal against Hermann Goering et al.) almost came to a conclusion by the end of 1948.†

Military Cases. The "Hostage" Case. Thus called because it dealt largely with the German policy of shooting, for one German killed, up to 100 enemy civilians ("hostages"). The 12 defendants (2 Field Marshals and 10 Generals) were charged with the murder of hundreds of thousands of civilians in Greece, Yugoslavia, and Albania as "hostages," "bandits," "partisans," "communists," and the like, for having carried out wholesale devastation in these countries and in Norway, and for other War Crimes and Crimes against Humanity (torture, systematic terrorization, imprisonment in concentration camps, deportation to forced labor, etc.). Defendant Gen. Franz Boehme committed suicide; the proceedings against Field Marshal von Weichs were suspended due to physical unfitness. Two, including Field Marshal Wilhelm List, were sentenced to life imprisonment, two defendants who were chiefs of staff were acquitted, and the others received prison terms between 7 and 20 years.

† About the organization of these Trials, and the five cases decided in 1947, see previous YEAR BOOK. Each Tribunal was composed of 3 judges; plus, in some cases, one alternate judge. In all, there were 32 judges; 13 were former members of their State supreme courts. All were civilian American jurists. The prosecution, headed by Brig. Gen. Telford Taylor, consisted of 131 attorneys—almost all U.S. civilians employed by the U.S. Dept. of the Army; the rest were Allied personnel. The 185 defendants in the 12 cases were represented by 373 defense counsel and assistant defense counsel. Except for some American lawyers, they were German citizens.

* One judge each from Canada, China, France, Great Britain, India, Netherlands, New Zealand, Philippines, U.S., U.S.S.R., with the Australian, Sir William Webb, presiding.

The Judgment considerably narrowed the content of the Prosecution concerning the criminality of the shooting of hostages and partisans. But it declared:

"That the acts charged as crimes in the indictment occurred is amply established by the evidence. In fact it is evident that they constituted only a portion of the large number of such acts which took place as a part of a general plan for subduing the countries of Yugoslavia and Greece. The guilt of the German occupation forces is not only proven beyond a reasonable doubt but it casts a pall of shame upon a once highly respected nation and its people." (p. 39)

The High Command Case. Fourteen other military leaders of the Third Reich—including three field marshals (Wilhelm von Leeb, Hugo Sperrle, Georg von Kuechler) and some other field commanders in World War II; Admiral Otto Schnievwind; Gen. Walter Warlimont, top man, after Keitel and Jodl, in Hitler's Armed Forces Operation Staff which issued the basic orders for Germany's conduct of the war; General Hermann Reinecke of the OKW (Supreme Command of the Armed Forces), who was responsible for the regulations concerning the treatment of prisoners of war—were descendants. They were charged with having issued, or ordered to be executed, criminal Orders resulting in the death of masses of prisoners of war and of civilians of occupied territories, as well as torture, deportation, enslavement, and other mistreatment; plunder, wanton devastation, and destruction; and other War Crimes and Crimes against Humanity.

The Judgment particularly emphasizes the criminality of 3 general German orders which had disastrous effects: the "Commando Order" (ordering the killing of Allied "Commandos" after capture); the "Commissar Order" (which ordered for "ideological reasons" the "extermination" of all Russian Commissars and of "the Communist intelligentsia"—the German Commanders being asked to "make the sacrifice of overcoming their personal scruples"); and the so-called "Barbarossa Jurisdiction Order," issued six weeks before the German attack on the Soviet Union, authorizing every German officer in the area "Barbarossa" (i.e. Russia) to order the summary execution without trial, of "Franc tireurs" and, beyond that, promising immunity to German soldiers for crimes against the inhabitants unless military discipline or security were endangered.

The Judgment declares to "have a strong suspicion from the record of this case that anti-partisan warfare was used by the German Reich as a pretext for the extermination of many thousands of innocent persons" (p. 95); and that

"the evidence in this case shows that hundreds of thousands of Russian prisoners of war died from hunger, cold, lack of medical care, and ill-treatment that were not a result of conditions" beyond the control of defendants.

The Tribunal further found intimate connection of the German Armed Forces and some defendants, with the heinous extermination activities of the special SS Einsatzgruppen (see below).

These defendants also were charged with "Crimes against Peace," namely with having actively participated in the planning, preparation, and waging of Hitler's aggressive wars and invasions. After studying a mass of contemporaneous German documents and hearing many witnesses, the defendants, and detailed arguments, the Tribunal acquitted under this count. It found that these defendants were not on "the policy level." It ruled

that the knowledge that a war which is being prepared or waged is criminal,

"is not sufficient to make participation even by high-ranking military officers in the war criminal. It requires in addition that the possessor of such knowledge, after he acquires it shall be in a position to shape or influence the policy that brings about its initiation or its continuance after initiation."

Since this was the only trial (except the Goering and Tokyo Trial) in which military men were charged with "Crimes against Peace," and the decision on whether and when high military leaders become punishable for preparing or waging aggressive war was one of the basic results of Nürnberg, a few more quotations may be given:

"It is not a person's rank or status but his power to shape or influence the policy of the State, which is the relevant issue for determining his criminality under the charge of Crimes against Peace."

"... The misdeed of the policy makers is all the greater in as much as they use the great mass of the soldiers and officers to carry out an international crime; however, the individual soldier or officer below the policy level is but the policy maker's instrument, finding himself, as he does, under the rigid discipline which is necessary for and peculiar to military organization."

"We do not hesitate to state that it would have been eminently desirable had the Commanders of the German Armed Forces refused to implement the policy of the Third Reich by means of aggressive war. . . . This would have been the honorable and righteous thing to do. . . . Had they done so they would have served their fatherland and humanity, also. But, however much their failure is morally reprimandable, we are of the opinion and hold that International Common Law, at the time they so acted, had not developed to the point of making the participation of military officers below the policy making or policy influencing level into a criminal offense in and of itself."

Industrial Cases. The Krupp Case; the I. G. Farben Case. In these cases some of Germany's industrialists, namely 12 and 23 leaders, respectively, of the firm of Krupp, and of the huge chemical combine I. G. Farben-Industrie were charged with "Crimes against Peace," namely with knowing participation in the planning, preparation, and waging of Hitler's aggressive wars and invasions. Again on the basis of a mass of contemporaneous documents, testimonies, and affidavits, the Prosecution endeavored to show: that the defendants' started clandestinely to rearm, immediately after the First World War, for aggressive purposes; that they later on enormously increased their production in the two vital fields of guns and other war equipment made of steel (Krupp) and of synthetic rubber, synthetic gasoline, nitrogen, and other chemical material in which I. G. Farben had a virtual monopoly, to enable Hitler to start the war; that the defendants actively helped Hitler to come to power and to stay in power; that their knowledge of the aggressive designs was proved by their intimate and continuous collaboration with the highest Nazi authorities; and that during the war, by their use of slave labor, by spoliation in occupied countries, and by preparing to dominate industries outside Germany after the hoped-for victory, they participated in the criminal "waging" of Hitler's war.

However, both judgments acquitted under these counts. The Krupp judgment indicated, in essence, that it might have decided differently with respect

to old Gustav Krupp (too sick to stand trial), who "stood at the apex of the huge Krupp combine until 1943."

With respect to Alfred Krupp, and the other defendants, however, the Tribunal found that Krupp's rearmament production in violation of the Peace Trials was established, but that their knowledge and intent that this was done for aggressive war and not, as the defense argued, for defensive war and for creating a strong bargaining position for Germany, had not been shown *prima facie* by the Prosecution. In a concurring opinion, Judge Wilkins, stated that with respect to some defendants the evidence was so strong that under a less conservative interpretation, the conspiracy to prepare aggressive war, as charged, might have been established; but since Crime against Peace is the "gravest accusation that can be raised against any individual," the Tribunal wished to adopt a conservative interpretation in this "comparatively new field of international law."

The majority decision in the I. G. Farben case declared that the I. G. Farben leaders were merely acting as private business men, who were duped by Hitler just as so many others inside and outside Germany, and that to find them guilty of Crimes against Peace might open the door to mass punishment. For, where should be the limit? Judge Hebert, in a separate opinion in this case, agreed with the finding of not guilty on the count, but sharply disagreed with the "moral exculpation."

On the other counts, particularly systematic spoliation and plunder of industrial and other property of great value in various countries overrun by Germany, and employment under most inhumane conditions of great numbers of deportees from those territories, and of concentration camp inmates, Krupp and Farben defendants were found guilty to varying degrees.

In the Farben case, the gravest aspect of the Slave Labor count was, as the Judgment found, that Farben in 1941-42 erected a large buna factory in Auschwitz (Poland) with labor partly furnished from the notorious Auschwitz concentration camp. "Many of those who became too ill or weak to work were transferred by the SS to Birkenau (the extermination section of Auschwitz) and exterminated in the gas chambers." After Farben set up a separate labor camp, "those who became unable to work or who were not amenable to discipline were sent back to the Auschwitz concentration camp, or, as was more often the case, to Birkenau for extermination in the gas chambers." (p. 148)

The most important feature of the Krupp judgment was that Alfred Krupp was sentenced not only to 12 years imprisonment but to confiscation of the entire Krupp plants and property (which he had owned since 1913; they were unofficially valued at some \$500 million). Presiding Judge Anderson dissented with respect to this latter penalty.

The Rusha Case. In this case, 14 high officials of Nazi organizations which were under the supervision of Himmler (the "Reich Commissar for Strengthening of Germanism"; the "Main Race and Settlement Office" of the SS ["Rusha"]; the "Repatriation Office for Ethnic Germans;" and the "Well of Life 'Lebensborn' Society") were tried for a combination of War Crimes and Crimes against Humanity which has become known under the name of "genocide"—the crime of destroying or weakening entire racial or ethnic groups. In the words of the Judgment:

"The Germanization program envisioned certain drastic and oppressive measures, among them:

"Deportation of Poles and Jews; the separation of family groups, and the kidnapping of children for the purpose of training them in Nazi ideology; confiscation of all property of Poles and Jews for resettlement purposes; the destruction of the economic and cultural life of the Polish population; and the hampering of the reproduction of the Polish population. This policy was put into practice in all of the countries, twelve in number, as they were ruthlessly overrun by Hitler's armed forces." (p. 5292)

E.g., a Himmler directive ordered for the non-Germans in the East the following schooling:

"Simple arithmetic up to 500 at the most; writing of one's name; the doctrine that it is divine law to obey the Germans and to be honest, industrious and good. I don't think that reading should be required."

More schooling would only be given in Germany if a child was found by the SS to be racially perfect, and he had to remain permanently in Germany.

"The parents of such children . . . will then probably produce no more children so that the danger of this subhuman people of the East . . . will disappear." (p. 5293)

The judgment continues: . . . "as the ferocity of war quickened, more drastic decrees and barbaric policies were adopted. For instance, . . . the question of dealing with the so-called "racially inferior" population was solved not so much by deportation as by adoption of extermination measures, thus bringing about a speedier elimination of undesirable foreign elements by death." (p. 5294)

The Einsatzgruppen (Special SS Units) Case. Some of the most shocking aspects of the Nazi extermination program were dealt with in the case against 24 leaders of special SS units called *Einsatzgruppen*. Organized before the German attack on Russia, their special task was systematically to exterminate Jews, Communists, gypsies, "a-socials," and other "undesirables"—men, women, and children. On the basis of the contemporaneous top-secret reports of these units which were regularly sent to Berlin, the Tribunal, after 4½ months of trial, reaffirmed the finding of the International Military Tribunal that "the *Einsatzgruppen* and other units of the Security Police killed two million defenseless human beings," and it found that of these, the units under the command of the defendants caused the death of a cumulative number of 1 million deaths, over a huge area extending from the Baltic to the Crimea and the Caucasus. These units were also used to search the prisoner of war camps, and to execute Russian Government and party officials, "leading personalities of the economy," "intellectuals" and "all Jews" whom they found among the prisoners of war.

The Judgment makes some gory quotations from the Reports of the units, about the methods of execution—how victims had to dig their own graves, or kneel in ditches, how they had to give up and sort their shoes, clothing, and underclothing before being executed, etc., and states that "the imagination staggers in the contemplation of a human degradation beyond the power of language adequately to portray it." (p. 6649)

(As said before—see *High Command Case*—these extermination units worked in areas which were under the jurisdiction of German Army Commanders, and the latter's collaboration or connivance played a big role in the *High Command Case*.)

The main defense arguments were: that the defendants had to do the work despite misgivings,

because it was ordered; that these measures were necessary because the victims were actual or potential enemies of Germany who either had committed or would commit crimes. The Judgment most strongly refused these arguments and the argument of the legality of "ideological killings," and then convicted 14 of the 24 defendants to death.

The Administration of Concentration Camps Case (Pohl Case). Some of the ugliest features of the Nazi regime also were revealed in the trial of 18 officials of the central SS agency (SS General Oswald Pohl was its chief) which was in charge of administering and supervising all German concentration and extermination camps. The task included the allotment of food, clothing, etc., and even of the facilities for the gassing; the disposal of the belongings of the victims, including their gold teeth; the hiring out of camp inmates to industry; and the running of the considerable industrial enterprises of the SS in which the labor was furnished by concentration camp prisoners. The evidence (contemporaneous documents and reports by surviving inmates) told a story of starvation, torture, murder, "medical experiments," and other mass atrocities.

The main defense arguments were, again, "superior orders" by Himmler and Hitler; and non-involvement because the acts were committed outside the jurisdiction of the defendants. There were 3 death sentences, 3 acquittals, 3 sentences to life imprisonment, and 9 lesser prison terms.

The balance sheet of the American Trials in Nürnberg as of the end of 1948, was: 11 of the 12 cases (involving 164 of 185 defendants) were completed; 33 defendants were acquitted, 4 were released from trial because of sickness, 4 committed suicide, 24 were sentenced to death by hanging, 20 to life imprisonment, 69 to other prison terms, and 10 were released because their terms were considered as served.—JOHN H. E. FRIED

WASHINGTON. A Pacific State. Area: 69,127 sq. mi. Population: (July 1, 1948) 2,487,000, compared with (1940 census) 1,736,191. Chief cities: Olympia (capital), 13,254 inhabitants in 1940; Seattle, 368,302. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended March 31, 1947, total revenue amounted to \$239,218,000; total expenditure, \$257,701,000.

Elections. Truman won the 8 electoral votes with a majority over Dewey, Wallace, and other candidates. His plurality over Dewey was about two-thirds of Roosevelt's 125,000 in 1944. There was no Senate race. Democrats won 2 of the 6 House seats for a gain of 1. Incumbent Democratic Governor Mon C. Wallgren was defeated for reelection by former Governor Arthur B. Langlie, Republican. Democrats won other State contests: Lieutenant Governor—Victor A. Meyers; Secretary of State—Earl Coe; Attorney General—Smith Troy; Treasurer—Tom Martin; Auditor—Cliff Yelle. Mrs. Pearl A. Wanamaker was reelected Superintendent of Public Instruction. The voters approved a \$100 million veterans' bonus bond issue; increased legislative pay; home rule powers to localities; a city-county consolidation measure; and sale of liquor by the drink.

Officers, 1948. Governor, Mon C. Wallgren; Lieut. Governor, Victor A. Meyers; Secretary of State, Earl S. Coe; Attorney General, Smith Troy; State Treasurer, Russell H. Fluent; State Auditor, Cliff Yelle.

WATER SUPPLY AND PURIFICATION. New light has been thrown upon the important process of sterilization of water with chlorine by studies conducted at Harvard University. The vital role of undissociated hypochlorous acid, HOCl , in the process has been demonstrated and the effect of acidity, pH, upon the effectiveness of the killing-power of chlorine has been explained. The success and extended use and general approval of free residual or break point chlorination for the treatment of water both to kill pathogenic organisms and to reduce and avoid bad tastes and odors continue to be reported. Devices for automatic continuous recording of chlorine residuals, both total and break point, have come on the market this year. Warning lights and bells that give immediate notice of either under- or over-dosage make possible great uniformity of residuals and resulting success and economy of the process. The use of chlorine dioxide not only to sterilize drinking water but also to oxidize taste- and odor-producing compounds, especially of chlorophenol tastes, from industrial wastes, continues to meet with success at several places.

Improvements in the art of water treatment are anticipated by a prominent researcher in the application of the electron microscope to the study of pathogenic organisms. This may prove of value in determining the role of water, if any, in the dissemination of the virus of infantile paralysis. Seven cities are known to be participating in a study of the effect of adding sodium fluoride to water normally deficient in fluorides to combat tooth decay. (The cost would be about 10¢ per capita.)

Suspicion has been directed against excessive nitrates in drinking water as a possible cause of cyanosis in infants.

The management of many water supplies has been concerned with the increase of rates to meet the rising costs, many of which have been allowed by Public Service Commissions.

The increase in the use of water for air-conditioning has continued. The general assembly of Indiana passed an act requiring anyone who removes 200 gallons per minute or more from a well for air-conditioning to return it to the ground through a re-charge well and in a safe condition.

New developments in electric operation of pumps have made possible the automatic pressure-flow control system of water pumping which promises better efficiency, fewer disruptions of operation, reduction in size and cost of elevated tanks and other improvements and economies. These methods have been successfully used in Richmond, Va. An interesting new process has been reported in successful use for lining water mains in place with electrically deposited bitumen. Sections of pipe from 300 to 1,000 ft. in length are valved off, cleaned mechanically, and lined with electrically deposited bitumen.

The cathodic protection of the various metallic structures of a water distribution and water treatment plant has this year received the recognition of the American Water Works Association through the publication of a committee report, and successful operation of these devices has been reported—both of the type which employs rectified current from an electric power line through anodes hanging within the structure as in an elevated tank to protect its interior surface and also the type which employs a metal like magnesium, high in the electromotive series, to act as an exterior anode to protect the exterior of a structure, such as a pipe in the ground. The successful use of magnesium in this way has been reported as a protective de-

vice for the entire municipal piping system (water and gas) of Lake Jackson, Texas, a village of 800 homes.

Among the new water supply projects mentioned in the news of 1948 is a \$9 million new well field and water treatment plant planned for Miami, Florida. Additions to the water treatment facilities of Tampa, Florida, now being completed embrace large upward flow sedimentation units. An industrial supply to cost \$2 million will increase the water supply of Birmingham, Alabama, by 50 million gallons per day. Savannah, Georgia, has completed a new \$4,800,000 water supply project with a filtration plant of 40 million gallons per day capacity. In Jacksonville, Florida, the voters have approved expenditures of \$5 million for extensions and rehabilitations of the municipal water system.

Anderson, Indiana, has embarked upon a program of installing four Ranney well collectors in the river bottom. Approximately 15 million gallons per day are available in the aquifer. The city will make no capital investment but agrees to buy 6,500,000 gallons per day to operate the system and to pay the company according to an agreed-upon schedule. The cost of the system is estimated to be slightly under \$500,000. Two-story sedimentation tanks have been designed for the new 25 million gallons per day water treatment plant of Long Beach, Cal. The water treatment plant at Dallas, Texas, will improve operating conditions and increase capacity from 72 to 100 million gallons per day. A bond sale of \$3,340,000 has been approved, and the money is to be used largely for improvements in the water works system.

At Worcester, Mass., a \$3 million loan has been approved for water works improvement, to include a 1,000-million-gallon reservoir. A new 150 million gallon per day intake line 18,500 ft. long made of 10 ft. diameter, 24 ft. long sections of precast reinforced concrete pipe has been started at Cleveland, Ohio. It will lead to the proposed Nottingham Water Filtration plant of equal capacity. A total of \$85 million will be provided during the next 10 years for expenditure on Detroit's water supply, and rates will be increased to provide this sum. The largest item in proposed improvements is a new pumping station which together with a four-mile tunnel will cost \$23,500,000. Initial operating experiences with Chicago's new 320 million gallon per day filtration plant serving one and one-half million people and 112 square miles, which is 53 percent of the city's area, have been reported. Partial operation of the plant has occasioned operating difficulties for a number of reasons. This new plant has many unique features. To conserve horizontal space, many parts of the plant were made two-story. The filters are designed to operate at almost double the average rate for short periods of time.

Progress is being made on the new Delaware water supply for New York City to be completed in 1954 but it appears that the city will barely catch up with its water needs. The present safe yield is 1,045 million gallons per day, less than the actual use in 1947 which was 1,185 million gallons per day. In 1954, the Delaware supply will bring in an additional 540 million gallons per day but at that time, at the present rate of increase in demand, the requirements will be for 1,556 million gallons per day. It is planned to place the ground water supplies in reserve at that time and the safe yield of the remaining supplies will be then only 1,400 million gallons per day or less than the estimated requirements. It appears, then, that the city should again look for more water.

Los Angeles plans to construct additional reservoirs and conduits to add a mean annual supply of 258 million gallons of water per day of Colorado River water to bring the total water supply of the city up to the requirements of 3,500,000 people expected in 1980 (twice the present population). The three main systems from Owens, Colorado, and Los Angeles Rivers will be so interconnected that either of its two aqueducts could be out of use for three months without curtailing service. The wells in the San Fernando Valley would be pumped to furnish the additional water needed during this period.

Los Angeles is not the only city of the West receiving water from Reclamation Bureau Projects. It has been reported that (in July, 1947) 37 municipalities were so supplied. In the Missouri River Basin Project, 19 municipalities were thus to be supplied. The larger cities of the far western states resort to long-distance transportation of water from 30 to 240 miles.

The value of water works construction in 1948, according to the *Engineering News Record*, was \$297 million, an increase in dollar value of 50 percent over that of 1947. This may be compared with the total dollar value of construction in 1948 of \$1,740 million, which represents an increase of 21 percent over that of 1947; but because of the decreased value of the dollar it is said to represent an increase in actual volume of construction of only 11 percent.

—W. E. HOWLAND

WATERWAYS, Inland. Cargoes carried on inland waterways showed a marked increase in 1948. In the United States they have reached all-time levels. The Mississippi River system was estimated to have carried 148 million of the 500 million tons carried on United States shallow draft waters, and a further 15-20 percent increase is expected in 1949.

In England and Continental Europe the primary reason for increased volume is the shortage of freight cars and motor transport. In the United States it was caused by the 40 percent increase in freight rates since the war, improved towboats and handling equipment in use, and clearing the rivers of ice.

About thirty large new Diesel towboats were put in service in 1948 and more were being built. Today large river trains carry as many as 20 barges with a tonnage equal to five or six freight trains. An integrated tow, the *Harry Truman*, was completed in June. This is a series of eleven integrated barges built to lock together, reducing water resistance. The complete 1,200-ft. unit is longer than the *Queen Mary* and cuts the time from New Orleans to St. Louis by nearly a week.

The Corps of Engineers recommended a new \$100 million Illinois-Mississippi canal from Bureau, Ill., to Hampton, Ill., a distance of 64 miles, since the present canal is inadequate for modern barges and towboats. Another recommendation was for a \$65 million tidewater ship canal across the Mississippi delta, seven miles long, 500 feet wide, and 36 feet deep, which would save considerable mileage to the Gulf of Mexico.

A proposal was made to connect the New York Barge Canal with the Ohio system at Pittsburgh using the Allegheny and Genesee Rivers. An alternate route would connect Lake Erie at Ashtabula, Ohio, with the Ohio via Beaver River, northwest of Pittsburgh.

The St. Lawrence Waterway was still a live issue. [President Truman urged its construction in his 1949 State of the Union Message and \$20 million

for preliminary work was provided in the 1949-50 budget.] Proposals for converting the Panama Canal into a sea-level route were aired during the year, as were proposals for an additional canal through Colombia.

Most canal operating machinery in Western Germany was undamaged during the war and now practically all of the 2,800 miles of canals and waterways are open for at least one-way traffic. Lack of shipping keeps totals below prewar levels.

In England, canal receipts as of Oct. 1, 1948, were up 11.4 percent over 1947. Most British canals are narrow and in poor repair, which limits the size of carriers to 7 by 70 ft. Because of their condition, motorized equipment, even of very low power, is damaging to the banks.

In Spain the proposed mile-long Duesra ship canal would allow 10,000-ton ships to reach the center of Bilbao. Here nearly a mile and a half of 200-ft. quays equipped with an extensive rail system would serve shipping.

In Poland the Oder River was being deepened, wrecks removed, and completion of the Danube-Oder canal will provide navigation for all countries concerned. Stettin will be the terminal and is being equipped as Poland's first bulk cargo port.

—J. W. HAZEN

WEATHER BUREAU, U.S. Weather Service. A major problem facing the U.S. Weather Bureau in 1948 was to meet increased demands by industry, commerce, agriculture and the general public for weather service. This problem was attacked by placing special emphasis on mass distribution of weather information through local commercial publication and broadcasting channels and by adding about 50 communities without local weather offices to the list of those served through telephoned or telegraphed bulletins from existing Weather Bureau stations.

The establishment of new airports, the expansion of air commerce, particularly among non-scheduled operators, and the increase in private flying placed heavier demands on the Weather Bureau for aviation weather services. The increased observational requirements were met as fully as practicable through a system of "cooperative airway stations" at approximately 150 airports where local airport or airline personnel provided official weather observations in cooperation with the Weather Bureau. Service to pilots of privately owned aircraft was improved by the broadcast of local flying weather reports by radio stations in some localities.

A new weather forecasting center was established at Seattle to encompass the States of Idaho, Oregon and Washington, all formerly in the San Francisco district. Subdivision into smaller districts enabled the forecast centers to provide better weather service by giving more attention to local weather variations. Specialized weather services were also improved. New mobile weather units were assigned to fire-weather warning centers in Oregon and Washington, bringing the total of these to seven units which enable the forecaster to move his office to the scene of the fire where his weather services become a component part of the fire suppression organization. Horticultural service formerly operating in Florida, California, Oregon and Washington only, was extended to Wisconsin to give frost warnings to cranberry growers and other farming interests.

The meteorological observation network of the Western Hemisphere was strengthened by the establishment of additional Arctic weather stations at Prince Patrick and Isachsen Land. This program

was carried out by the Weather Bureau, operating jointly with Canada and using air transportation of the U.S. Air Force in winter and vessels of the U.S. Navy during the summer.

The increased demand for daily weather service was paralleled by similar demands for climatological information. These extensive demands led the Weather Bureau to expand its program for treatment of weather data by machine methods. Punch card machine units began taking over from the State Climatological Section Centers the tabulation and preparation for publication of the daily records from the basic network of 6,000 cooperative climatological stations. The changeover from manual to mechanical procedures, which should be completed in about a year, will result in increased accuracy and accessibility of original climatological records and also a more adequate climatological service.

Research. One of the major research undertakings of 1948 was the Cloud Physics Project, popularly called the "Artificial Precipitation Project." Because of strong public interest and the potentially great economic value of producing rainfall artificially, the Weather Bureau with the cooperation of the U.S. Air Force, National Advisory Committee for Aeronautics, and the U.S. Navy, carried out near Wilmington, Ohio, scientifically controlled experiments using all available measuring facilities including radar and instrumented aircraft. Experiments on winter-type stratus clouds (Weather Bureau Research Paper No. 30) and on summer-type cumulus clouds (Weather Bureau Research Paper No. 31) showed that artificial modification of clouds by use of dry ice as a "seeding agent" is of doubtful economic importance for production of rain and they gave no indication that seeding initiates self-propagating storms. Dissipation of cumulus clouds rather than new development was generally the result of treatment.

Observational phases of the Thunderstorm Research Project, under joint sponsorship of the U.S. Air Force, U.S. Navy, National Advisory Committee for Aeronautics, and the U.S. Weather Bureau, were completed in 1947 after accumulation of an excellent series of data from the vicinity of Orlando, Fla., in 1946, and Wilmington, Ohio, in 1947. Analysis of the observations, which is being carried on through contract with the University of Chicago, is expected to be completed in 1949. A program started by the Weather Bureau in 1946 to observe by radar the location and movement of significant precipitation areas was continued in 1948 with the installation of experimental radar storm detection units at several midwestern locations where they could serve for locating destructive thunderstorms and tornadoes that frequent those areas.

In the field of forecasting research, several methods for forecasting specific weather elements at particular places were developed through application of statistical techniques. These objective methods represent new tools which supplement but do not replace other forecasting procedures. In addition to seeking to improve methods for forecasting a few hours to a week in advance, the Weather Bureau reported experimentation with methods for predicting weather a month in advance.

—F. W. REICHELDERFER

WESTERN PACIFIC ISLANDS, British. The British island groups (Gilbert and Ellice Islands, British Solomon Islands, Tonga, New Hebrides, and Pitcairn Island), under the administration of the British High Commissioner for the Western Pacific.

WESTERN SAHARA. Spanish colonial possessions on the Atlantic coast of Africa, consisting of the Territory of Ifni (area, 741 square miles; population, 35,000 in 1944) and Spanish Sahara (area, 105,409 square miles; population, 37,000 in 1944) which includes the two zones of Rio de Oro and Sekia el Hamra. Chief towns are Villa Cisneros and Smara in Spanish Sahara and Sidi Ifni in the Territory of Ifni. Under the jurisdiction of the high commissioner of Morocco, the colony has a politico-military local government in Cabo Juby.

WEST VIRGINIA. A south Atlantic State. Area: 24,282 sq. mi. Population: (July 1, 1948) 1,915,000, compared with (1940 census) 1,901,974. Chief cities: Charleston (capital), 67,914 inhabitants in 1940; Huntington, 78,836. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$110,859,000; total expenditure, \$101,791,000.

Elections. Truman won the 8 electoral votes by a majority over Dewey and Wallace half again as large as Roosevelt's 70,000 in 1944. Incumbent Republican Senator Chapman Revercomb was defeated for reelection by Matthew M. Neely. Democrats captured all 6 House seats for a gain of 4. Democrats swept all Statewide contests for State office, including: Governor—Okey L. Patterson; Secretary of State—D. Pitt O'Brien; Attorney General—Ira J. Partlow; Auditor—Edgar B. Sims; Treasurer—Richard E. Talbott; Commissioner of Agriculture—J. B. McLaughlin.

Officers, 1948. Governor, Clarence W. Meadows; Lieut. Governor, None; Secretary of State, William S. O'Brien; Attorney General, Ira J. Partlow; State Treasurer, Richard E. Talbott; State Auditor, Edgar B. Sims.

WHEAT. The 1948 wheat crop of the United States, as reported by the U.S. Department of Agriculture in December, 1948, amounted to 1,288,406,000 bushels, compared with the 1947 crop of 1,367,180,000 bu. and the 10-year average (1937-46) of 942,623,000 bu.

Yields of the chief producing States of the United States in 1948 were (in bushels): Kansas 231,368,000, North Dakota 136,580,000, Oklahoma 98,962,000, Montana 90,547,000, Nebraska 82,988,000, Washington 79,268,000, Ohio 57,648,000, Texas 56,290,000, Colorado 53,525,000, South Dakota 50,391,000, Illinois 40,065,000, Missouri 39,270,000, Michigan 36,270,000, Idaho 34,583,000, Oregon 27,818,000, Minnesota 18,509,000, Pennsylvania 18,354,000, New York 12,452,000, California 11,988,000.

World Wheat. The world output of wheat in 1948 was estimated by the U.S. Department of Agriculture on Nov. 29, 1948, to total 6,285 million bu., as compared with a world output of 5,815 million bu. in 1947.

WHITE HOUSE OFFICE, The. A division of the Executive Office of the President, which serves the President in the performance of detailed activities incident to his office. The officials include three Secretaries: Matthew J. Connelly, Charles G. Ross, William D. Hassett. Assistant to the President: John R. Steelman. Special Counsel: Clark M. Clifford. Administrative Assistants: David K. Niles, Charles S. Murphy, Donald S. Dawson. Administrative Assistant in the President's Office: Rose A. Conway. Social Secretary: Reathel M. Odum. Executive Clerk: William J. Hopkins.

WINDWARD ISLANDS. A group of four British colonies consisting of the islands of Grenada (133 square miles), St. Vincent (150 square miles), St. Lucia (233 square miles), and Dominica (304 square miles). Total area, 820 square miles. Population, about 285,000. Capital, St. George's (on Grenada), 5,755 inhabitants. More than 75 percent of the people are Negroes, 2 percent Europeans, and the remainder mulatto. Agriculture is the chief occupation of the inhabitants. Arrowroot, nutmeg, cocoa, sugar, cotton, copra, citrus fruits, rum, spices, and vegetables are the main products. Foreign trade (1946): imports, £2,126,298; exports £1,363,925. Finance (1946): revenue, £1,550,355; expenditure, £1,392,217.

Government. Each island colony retains its own institutions of government. Under the administration of one governor, the colonies have no common legislature, law, revenue, or tariffs, but do unite for certain other common purposes. Governor and Commander in Chief, Sir Arthur F. Grimble.

WISCONSIN. An east north central State. Area: 56,066 sq. mi. Population: (July 1, 1948) 3,309,000, compared with (1940 census) 3,137,587. Chief cities: Madison (capital), 67,447 inhabitants in 1940; Milwaukee, 587,472. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended June 30, 1947, total revenue amounted to \$197,918,000; total expenditure, \$179,946,000.

Elections. Truman won the 12 electoral votes, Dewey's in 1944 by a 24,000 majority, with 647,310 votes to Dewey's 590,959 and Wallace's 25,282. There was no Senate contest. Democrats broke the Republican monopoly on House seats by winning 2 of the 10. Incumbent Republican Governor Oscar A. Rennebohm was reelected. Other State officers elected included: Lieutenant Governor—George M. Smith; Secretary of State—Fred R. Zimmerman; Attorney General—Thomas E. Fairchild; Treasurer—Warren R. Smith.

Officers, 1948. Governor, Oscar A. Rennebohm; Lieut. Governor (Vacancy); Secretary of State, Fred R. Zimmerman; Attorney General, John E. Martin; State Treasurer (Vacancy); State Auditor, J. Jay Keliher.

WOMEN'S BUREAU. This bureau in the United States Department of Labor is the Federal agency established by Congress in 1920 to promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. In the first year in which the Bureau functioned, only 8½ million women had gainful employment outside the home. By late 1948, approximately 17,272,000 were employed and another 530,000 available for employment. Taken together, the women with jobs and those seeking them accounted for about 32 percent of the country's total woman population 14 years of age and over, and 29 percent of all persons in the labor market.

During 1948, the Women's Bureau conducted research on employment opportunities for women, their working conditions in important woman-employing industries, their earnings in specific occupations, and on other subjects directly related to women's participation in the economic life of the United States. Continuing the long time program of cooperation with State labor departments, women's organizations, trade unions, and others, it also compiled data and gave technical assistance on legislation and administration dealing with minimum

wage, equal pay, hours of work, and laws affecting the civil and political status of women.

Another method by which the Bureau helped to promote the economic welfare of women was the convening in February, 1948, of a major conference on "The American Woman, Her Changing Role—Worker, Homemaker, and Citizen." This 3-day session, which was opened with an address by the President of the United States, 1) Reviewed the basic social and economic factors underlying women's increased employment; 2) Evaluated the progress made by women since the "Declaration of Sentiments" was drawn up at the first Woman's Rights Convention in Seneca Falls, N.Y., in 1848; and 3) Afforded an opportunity for a thorough exchange of opinion on the issues women face in their capacities as workers, homemakers, and citizens.

Other significant activities of 1948 included technical and consultative services to the United Nations and the International Labor Organization. The Bureau's Director served as an adviser to the United States delegation at the 7th session of the United Nations Economic and Social Council in Geneva, and throughout the year as a representative on the Human Rights and the Status of Women subcommittee of the Interdepartmental Committee on International Social Policy.

Services to the International Labor Organization included attendance of two senior staff members at the 31st International Labor Conference in San Francisco and preparation of technical documents on a number of subjects, among which were night work, maternity leave, re-employment rights of women, equal pay for women, welfare facilities for women in textile mills, and vocational training for women production workers.

As in the past, the Bureau also carried on a program of Inter-American cooperation and developed training courses for visiting women labor officials from the other Americas. Recipients of grants awarded by the United States Government, these women studied methods of promoting the welfare of employed women through legislation, improved working conditions, and wider employment opportunities.

Studies Published in 1948. Among research studies published in 1948 was *The Outlook for Women in Science*. Composed of 8 separate bulletins, this series discusses women's contributions to, and expected employment in, 13 major fields of science and in 5 occupations directly related to science.

A second major study published during 1948 was the project, *Women's Occupations Through Seven Decades*. An occupational history of women in the United States, this 260-page report discusses the leading occupations of women, as reported in decennial censuses, from 1870 to 1940 and furnishes other information considered vital to a realistic appraisal of the current and anticipated employment of women.

One of the new projects of 1948 was the *Handbook of Facts on Women Workers*. This handbook includes current facts on women's employment, their wages or salaries, economic responsibilities, standards for employment, civil and political status, and other subjects relating to and of concern to women workers.

Studies in Progress in 1948. Projects on which preliminary work was completed in 1948 included studies on night work in the hotel and restaurant industries, women in Federal service, and the employment outlook for women in the social services.

Legislation. Minimum-Wage. Bureau service rendered to State administrators of minimum-wage

legislation included assistance, on request, in the preparation of basic factual data for presentation to wage boards; consultation on specific points of wage board procedure and other administrative problems; and the preparation of such technical material as digests of laws and compilations of wage orders. Minimum-wage activity was particularly heavy in 1948 because of the programs carried on in many States for the revision of existing wage orders and the growing recognition in others of the need for such action.

Equal Pay. Technical assistance was given to State officials, women's organizations, trade unions, and others interested in passing or amending State equal-pay legislation and in the passage of Federal legislation on equal pay. By the end of 1948, 9 States had equal-pay laws and a proposal for a Federal law was pending in the U.S. Congress.

Hours of Work. As in past years, State administrators were furnished technical data in support of improved hours-of-work legislation. Employers and individuals, upon request, also were given considerable information on the laws of the 43 jurisdictions which limit daily or weekly hours of work of women employees in one or more specific occupations.

Civil and Political Status. Progress in this field during 1948 included revision of the major study, *The Legal Status of Women in the United States*. This project, in addition to a summary report for the United States as a whole, includes separate reports on women's status in each of the 48 States, the District of Columbia, Alaska, Puerto Rico, Hawaii, the Canal Zone, and Virgin Islands. Work also was continued on a detailed United Nations Questionnaire dealing with public law and its relation to women of the United States. Also prepared were statements for the United States Congress on the need for broadening laws governing the service of women on Federal juries and on the discriminations against women in existing immigration laws.

Special Services and Publications. The publication, *Facts on Women Workers*, was issued monthly, and throughout the year a number of interpretative articles, news releases, radio scripts, and leaflets were prepared on such subjects as women's participation in the labor market, their wage-earning responsibilities in relation to family, their hours of work and wages, their protection under minimum-wage laws and other labor legislation, and their status under the civil and political laws of the 48 States, the District of Columbia, and the three territories.

—FRIEDA S. MILLER

WOOL. The 1948 world wool production was indicated at 3,730 million lb., according to reports received by the Office of Agricultural Relations, U.S. Department of Agriculture (*Foreign Agriculture Circular*, Nov. 29, 1948). In 1947 the world wool output was estimated at 3,710 million lb.

The 1948 wool yields of the chief producing countries (in millions of lb.) were: Australia, 1,040, Argentina 430, New Zealand 345.4, United States 289.3, U.S.S.R. 285, Union of South Africa 212 (includes Union Protectorates and South-West Africa), Uruguay 149.9, Spain 88, China 75, Great Britain 70, Turkey 64.1, India 53, Brazil 50, Chile 46.3, Iran 30, France 29.3, Bulgaria 28.6, Italy 28, French Morocco 28, Pakistan 25, Iraq 24.2, Peru 20.7, Algeria 18.3, Portugal 18, Greece 17, Afghanistan 15.

WORLD HEALTH ORGANIZATION (WHO). Combining the functions of former organizations in the field

of international health cooperation, WHO represents the first truly world-wide body of this kind in history. It is based on the concept that health, whether for whole nations or for the individuals comprising them, is no longer possible in the shrunken world of today without teamwork between governments and peoples on a scale far greater than ever before, and that defensive measures against diseases cannot be looked upon as adequate protection for the health of the peoples of the world.

Origins. The WHO Constitution, drafted in the spring of 1946 at Paris, was approved by the International Health Conference convened by the UN Economic and Social Council in New York, June 19–July 22, 1946. In order to carry on certain urgent functions which previously had been the responsibility of agencies such as the League of Nations Health Organization and UNRRA's Health Division, a WHO Interim Commission was established at the conclusion of the 1946 New York Health Conference.

The Interim Commission, which consisted of representatives from eighteen states, under the Chairmanship of Dr. Andrija Stampar of Yugoslavia, achieved its most dramatic success in 1947 in helping the Government of Egypt to bring a large scale cholera epidemic to a complete standstill within six weeks. Much other less sensational, but no less important, work was done during the life of this preparatory body through the establishment of expert committees in a number of fields to advise the organization on technical questions and through the continuation of a field services program taken over from UNRRA in fourteen countries of Europe, Africa and Asia.

In the arrangements made at the International Health Conference it had been specified that the WHO Constitution would come into effect when 26 members of the United Nations ratified their signatures. This number was exceeded on Apr. 7, 1948. As a result it was possible to convene the first World Health Assembly.

This Assembly met in Geneva from June 24 to July 24, 1948, and among other things fixed the date of Sept. 1, 1948, for the permanent World Health Organization to come into existence officially as a specialized agency of the United Nations.

Purpose and Scope. The objective of WHO, as stated in its Constitution, is "the attainment by all peoples of the highest possible level of health," the word "health" being defined as "a state of complete physical, social and mental well-being and not merely the absence of disease or infirmity." Its functions may be summarized as follows: (1) to coordinate international health work, including that of inter-governmental and governmental agencies and of private groups; (2) to propose and administer international conventions on health matters, and to work for epidemic control; (3) to provide technical services, including the reporting of epidemics and vital statistics, the unification of medical terminology, the establishment of standards for biological and pharmaceutical products, etc.; (4) to assist governments in strengthening their health services and to give health assistance to special groups (e.g. the peoples of trust territories); (5) to foster mental health activities; in cooperation with other agencies, to promote nutrition, maternal and child health, environmental hygiene, etc.; and to promote improvement in standards of health teaching and the development of informed public opinion; (6) to conduct research in the field of health.

Members. Membership in WHO is open to all states. There were 56 members as of Dec. 31, 1948, including both members and non-members of the United Nations. The eighteen states selected by the first World Health Assembly in July, 1948, to designate persons to serve on the WHO Executive Board are the following: Australia, Brazil, Byelorussian S.S.R., Ceylon, China, Egypt, France, India, Iran, Mexico, Netherlands, Norway, Poland, Union of South Africa, United Kingdom, U.S.S.R., United States, Yugoslavia.

Officers and Headquarters. At its first session, held immediately following the first World Health Assembly, the WHO Executive Board elected Sir Aly Tewfik Shousha, Pasha (Egypt), as its Chairman. Dr. Brock Chisholm (Canada) had been appointed first Director-General of WHO by the Health Assembly. Headquarters of the Organization is in the Palais des Nations, Geneva, Switzerland. The Organization also maintains a liaison office in the Empire State Building, New York.

Regional Arrangements. Regional Offices exist or will be established in six major geographical areas of the world (Eastern Mediterranean, Western Pacific, South East Asia, Africa, Europe, and the Americas). The Regional Office for South East Asia, established at the end of 1948, is the first such body. The Regional Office for the Eastern Mediterranean is to be established at a meeting in Cairo on Feb. 7, 1949. The Pan American Sanitary Organization is in process of becoming the WHO regional body for the Western Hemisphere. Other such offices are being created as soon as the majority of countries in the areas concerned agree to participate. A (temporary) Special Office for Europe, particularly concerned with health rehabilitation in the war-devastated regions, was also established on Jan. 1, 1949.

Events of 1948. The year's principal development was the creation of the permanent organization itself on foundations laid by the Interim Commission during the preceding two years. This landmark in international cooperative effort for improving the world's health standards resulted directly from the first World Health Assembly.

Delegates and observers from nearly seventy nations participated in this gathering. The chief task facing them was to decide what WHO could and should do in view of the limited resources that would be available for the first year of operations (\$5 million). Basing their decisions for the most part on recommendations made by the Interim Commission, the delegates assigned top priority to work in the fields of malaria, tuberculosis, venereal diseases, maternal and child health, nutrition, and environmental hygiene. They also decided on a long-range program in public health administration, on special studies in parasitic and virus diseases, and on a campaign for the promotion of mental health.

In addition to these activities, many of which had been begun during the life of the Interim Commission, it was agreed that WHO would continue such work as biological standardization, the unification of pharmacopoeias, the revision of international quarantine regulations, and the collection and dissemination of epidemiological information to help control the international spread of communicable disease.

Most of these various undertakings were under way as the year 1948 came to a close. Two sessions of the WHO Executive Board were held (July and October) to give effect to decisions and policies of the Health Assembly, while a whole series of meetings of expert committees took place between

September and December to deal with specific technical aspects of the work being carried out or planned for the near future.

Details on program and personnel for the South East Asia Regional Office of WHO were decided at another major international gathering which took place in New Delhi at the beginning of October, attended by representatives of the countries in that area and by members of the Secretariat. Moreover, representatives of seventeen countries in all parts of Europe met in Geneva at a two-day conference in November to outline their needs for assistance from WHO in rehabilitating national health services. This conference was held in connection with the establishment of the Special Office for Europe, mentioned above.

WHO's six top priority campaigns, in particular, are planned and coordinated at the headquarters level with the advice of international committees of specialists in each of the fields concerned. The programs are carried out primarily by advisory and demonstration teams sent into the field to assist national health authorities. These activities, representing a part of WHO's so-called "field operations," are supplemented by a Fellowship Program for the international exchange of medical and public health personnel and by a Medical Supply Service to provide teaching material and to give advice on the procurement of drugs, biologicals, equipment, etc.

As the work of the organization developed during the first months of its existence as a permanent agency it became clear that future budgets of WHO would need to be substantially larger than the first one if even a minimum of work represented by requests of governments for demonstration teams and other assistance were to be carried out effectively. By the end of 1948 such requests already amounted to more than twice as much as WHO could fulfill. Accordingly, plans were being made to present more nearly adequate budget proposals to the second World Health Assembly, which was scheduled to meet during the latter part of June and the first part of July, 1949, in Rome.

—G. BROCK CHISHOLM

WORLD PEACE FOUNDATION. The. An organization, founded by Edwin Ginn, devoted to the presentation of the facts of international relations in clear and undistorted form. This function is performed through the publication of an annual series of *Documents on American Foreign Relations* and through two quarterly periodicals, *International Organization* and *Documents of International Organization: A Selected Bibliography*. In addition the Foundation publishes occasional studies on international relations, which have been extensively used by teachers, specialists, and government officials; maintains a documents library, and carries on a modest program of community education in the New England area through a number of voluntary organizations. President of Board of Trustees, Harvey H. Bundy; Director, Raymond Dennett. Offices: 40 Mt. Vernon St., Boston 8, Mass.

WRESTLING. A strong band of matmen from the U.S. Navy captured team honors in the national A.A.U. championships, winning two individual titles on the way. Individual winners were Ensign Malcolm MacDonald, U.S. Navy, 114.5-lb. class; Lieut. Robert Kitt, U.S. Navy, 125.5; Leo Thomsen, Cornell College of Iowa, 136.5; Newt Copple, University of Nebraska, 147.5; Leland Merrill, New York A.C., 160.5; Dale Thomas, Marion, Iowa, 174; Henry Wittenberg, New York Police Department,

191; Ray Gunkel, Purdue University, heavyweight. Wittenberg later won the light-heavyweight class as the Olympic Games in London.

Oklahoma A. and M. took the National Collegiate A.A. team title. Individual champions follow: Arnold Plaza, Purdue, 114.5; George Lewis, Waynesburg, 125.5; Bill Dickenson, Michigan State, 136.5; Bill Koll, Iowa State Teachers, 147.5; Jack St. Clair, Oklahoma A. and M., 160.5; Glen Brand, Iowa State, 174; Vern Gagne, Minnesota, 191; Richard Hutton, Oklahoma A. and M., heavyweight. Brand added to his laurels by annexing the Olympic crown in middleweight free-style wrestling. See OLYMPIC GAMES.

—THOMAS V. HANEY

WYOMING. A mountain State. Area: 97,914 sq. mi. Population: (July 1, 1948) 275,000, compared with (1940 census) 250,742. Chief city: Cheyenne (capital), 22,474 inhabitants in 1940. See AGRICULTURE, EDUCATION, MINERALS AND METALS, SCHOOLS, UNIVERSITIES AND COLLEGES, VITAL STATISTICS.

Finance. For the fiscal year ended Sept. 30, 1946, total revenue amounted to \$20,017,000; total expenditure, \$16,491,000.

Elections. Truman won the 3 electoral votes, Dewey's in 1944, by a plurality over Dewey, Wallace, and others. Governor Lester C. Hunt, Democrat, defeated incumbent Republican Senator Edward V. Robertson, running for reelection. Republicans retained the sole House seat. There was no contest for State office. Dr. A. G. Crane, Secretary of State, succeeded to the Governorship.

Officers, 1948. Governor, Lester C. Hunt; Lieut. Governor, None; Secretary of State, A. G. Crane; Attorney General, Norman B. Gray; State Auditor, Everett T. Copenhaver; State Treasurer, C. J. Rogers; Superintendent of Public Instruction, Edna B. Stolt.

YACHTING. A tremendous growth in the world's navy of pleasure-seekers and keen competition marked last season. White sails dotted inland waterways as well as the rougher waves of the seas in a year of colorful international contests, and the sparkling performances written into 1948's log by United States skippers featured the heavy calendar.

In the five Olympic classes, American sailors gained two firsts and a second (see OLYMPIC GAMES). Lockwood Pirie of Chicago annexed the world Star Class championship off Lisbon, Portugal, with his racer *Twin Star* after having nailed victories to the mast in the midwinter and Bacardi Cup series off Havana. Henry C. Taylor's black yawl *Baruna*, a consistent scorer all year, finished first in the Newport-to-Bermuda ocean race for the third time and led all opposition on corrected time to become the first yacht in history to take the major prize twice in this classic.

Garner H. Tullis's 77-foot ketch *Windjammer II*, out of New Orleans, won the fifteenth St. Petersburg-to-Havana thrash and Larry Barr of San Diego, Calif., sailed his *Mickey* home to triumph in the inaugural Newport Harbor-to-Ensenada event, that Pacific Coast test drawing a mighty fleet of 104 starters. The Cuban cutter *Ciclon* took the Miami-to-Nassau fixture.

Henry S. Morgan's sloop *Dfinn* was among the year's leading winners, annexing one of yachting's most coveted prizes, the cup put in competition by the late King George V of England, then adding the famous Astor Cup. Among the highlights of international competition were the Scandinavian

Gold Cup and Seawanhaka Cup regattas for Six-meters, both sailed on Oyster Bay, L.I., under the auspices of the Seawanhaka Corinthian Y.C. Norway and Sweden both made bids for the Gold Cup, but it was successfully defended by George Nichols' *Goose*, sailed by Briggs Cunningham. Sven Salen's challenger *Maybe VI* from Stockholm invaded in an attempt to capture the Seawanhaka Cup, but lost to the American craft, *Llanoria*, sailed by Herman F. Whiton, which previously had scored in the Olympics. The blue-hulled *Llanoria* proved one of the leading victors of the year.

Other features were the Long Island Sound's sweep of its team series with the International One-Design Class skippers of the Royal Bermuda Y.C. and Bermuda's victory over the Luders Sixteen team from the Indian Harbor Y.C. The Chicago Y.C. swept its series of Luders Sixteen races for the Ocean—Great Lakes challenge trophy.

Club and interclub regattas and overnight races drew record fleets, with Larchmont's Race Week again holding the spotlight. Although sailing gained in many parts of the world and the United States in particular, Long Island Sound remained the greatest center for the sport. One of yachting's outstanding feminine skippers, Aileen Shields, led her crew from the Larchmont Y.C. to both the Long Island Sound and the national women's championships. The Vineyard Haven Y.C. crew, with Norman D. Cassel at the tiller, captured national junior laurels. The Atlantic Coast Star Class title was taken by *Shillalah*, owned by E. W. Etchells, veteran sportsman who again ranked with yachting's top winners. —THOMAS V. HANEY

YEMEN. An absolute monarchy (Arab) in the southwest corner of the Arabian peninsula. A population of about 3,500,000 with their capital at San'a live in an area of some 75,000 square miles much of which is well-watered. Agriculture is extensive, with such crops as barley, wheat, millet, and coffee, the country's leading export.

Government. A 1936 Treaty of Friendship signed by Great Britain and the Kingdom of Yemen recognized the latter's complete independence. Constituted as a theocratic state Yemen was ruled by the elderly Imam Yahya, leader of an old branch of the Moslem Shia sect. The country's fanatical sectarianism resulted in its virtual inaccessibility to Europeans and its almost complete isolation from world affairs, modified by recent adherence to the Arab League and the United Nations. Education is of the most primitive.

Events, 1948. In February Imam Yahya was murdered and San'a held for three weeks by the army of the insurgent al-Sayyid Abdullah ibn Ahmad al-Wazir, leader of a group dissatisfied with the prolonged ultra-conservative rule of Yahya. He was supported by the Imam's sixth son, Sayf al-Haqq Ibrahim, who had previously retired to neighboring Aden as leader of the dissident "Free Yemen" party. The forces of Sayf al-Islam Ahmad, the Imam's eldest son, powerful but unpopular, succeeded in entering San'a. He had been designated by his father as next in line. On March 21 the Arab League, after investigating the situation, recognized him as ruler of the Yemen, and shortly thereafter Pakistan, India, and Great Britain also recognized him. —DOROTIEA SEELYE FRANCK

YUGOSLAVIA. A Balkan republic. Area: 96,134 square miles. Population (Jan. 1, 1941 est.): 15,920,000. Chief cities (1931 census): Belgrade (capital) 266,849, Zagreb 185,581, Subotica 100,

058, Ljubljana 79,056, Sarajevo 78,173, Skopje 64,737, Novi Sad 63,985.

Education and Religion. The new law provides for free and compulsory education of 7 years in elementary state schools. Enrollment (1946-47): 15,165 elementary schools, 669,578 pupils; 894 secondary schools, 308,772 pupils; 51 teacher training institutions, 15,493 pupils; 67 art and music schools, 13,044 pupils; 49 faculties of the higher institutions of learning, 46,423 students; also (1945-46) over 1,698 elementary classes for minorities (Albanian, Magyar, Slovak, Czech, Italian, Rumanian), and 127 secondary schools with 22,583 pupils for minorities. Under Tito, new universities opened at Skopje (Macedonia) and Sarajevo, and new faculties added to the universities at Belgrade, Zagreb, and Ljubljana. Over half of the population cannot read or write.

The religion of the Serbs (roughly the regions of Serbia, Montenegro, and large parts of Bosnia and Herzegovina) is Eastern Orthodox, while that of the Croats and Slovenes is Roman Catholic; Moslem communities are scattered in Bosnia, along the Albanian border, and in Macedonia. (The 1931 census showed 48.7 percent of Serb Orthodox, 37.4 percent Roman Catholics, and 11.2 percent Moslems.)

Production. The country is predominantly agricultural; forestry, cattle raising, and mining. Coal, copper, marl, bauxite, iron, lead and chrome, are especially important. Manufacturing industries are chiefly lumbering, textile weaving, milling, tanning and the production of leather goods, chemical products, brewing, and sugar refining. Between 1946-1948, under the 5-Year plan, 200 new factories had been erected. But on November 26, Tito admitted that he was obliged to "reorganize and regroup" the 5-Year plan to industrialize the country and to eliminate all secondary projects due to the economic offensive against him by the Cominform states. All local projects were to be sacrificed for the benefit of the main target which was to industrialize the country.

Foreign Trade. Main imports: cotton (raw), cotton yarns, and textiles; iron and manufactures thereof; wool, wool yarns, and cloths; machinery; vehicles; electrical apparatus; coal; crude and lubricating oils; silk, silk yarns, and manufactures thereof; synthetic organic dyes. Exports: timber, copper and various ores, livestock, wheat, meat, hemp, fresh fruit, eggs, lard, dried prunes, hops, corn, tobacco. But the prewar trades' trends changed by the "Iron Curtain" situation.

Finance. Unit is the dinar; one dinar equals 26.5 milligrams of gold. The 1947 revenue totalled 97,631 million dinars, and expenditure 85,976 million dinars. The estimated 1948 budget of 124,841.3 million dinars, allowed for an expenditure of 54.3 percent above the 1947 revenue. The army estimates, which in 1947 amounted to 13,550 million dinars, were raised to 15,500 million dinars in 1948.

Transportation. In 1939 there were 6,655 miles of railways and 20,906 miles of highways. On Oct. 26, 1948, Belgrade's radio announced that in the postwar period over 1,041 km. of railway lines had been constructed and 4,350 km. repaired. Lack of transport constituted the main bottleneck in the development of Yugoslavia's economy; roadbeds are poor and rolling stock is worse. All railroad facilities are heavily overtaxed by the movement of equipment, supplies, materials, and manpower required by the 5-Year plan. The Danube is the most important artery of the total length of 26,687 miles of waterways.

Government. The Constitution of Sept. 3, 1931, was replaced by that of Nov. 29, 1945, proclaiming the Republic. On Jan. 31, 1946, the Constitution of the Federal People's Republic of Yugoslavia proclaimed a federal state, with supreme power vested in a central government. Yugoslavia has 6 republics (Slovenia, Croatia, Serbia, Bosnia-Herzegovina, Montenegro, and Macedonia); each of these areas has its own government. In addition there is an autonomous province (Vojvodina) and an autonomous region (Kosovo-Metohija).

On Dec. 11, 1948, the Yugoslav Presidium created two new Ministries (the Ministry of Science and Culture and the Ministry of Railways) in the federal government. All legislative and administrative authority rests in the National Assembly, elected every 4 years and consisting of 2 branches (the Federal House of Representatives and the House of Nationalities).

Events, 1948. As during the last several years, Marshal Tito continued to capture the headlines of world news. Tito's defection from the Cominform and subsequent differences with his neighboring pro-Soviet satellites were reflected in the domestic situation. On November 26, Tito announced that the unfriendliness of the Cominform states had caused him to modify his Five-Year plan for the industrialization of Yugoslavia. Despite internal economic difficulties and open political hostilities from the East, Tito's government enjoyed more stability and had less to fear for its continuity than did most of the governments in Europe. Tito headed a strongly disciplined party, a strong army, and strong security forces; he commanded a country that was well disciplined and loyal to him, and he was in possession of political alternatives that gave him any needed freedom of movement.

Purges. Nearly two months before the Cominform quarrel came to a head in the anti-Tito resolution of June 27, Tito had taken measures to decapitate the pro-Soviet opposition at home; he had removed from office Andrija Hebrang, one-time planning board head, and Sreten Zujović, who had been Finance Minister; the elimination of these elements neutralized any attempt that might have been made to organize opposition leaders inside the Yugoslav Communist Party. At the same time, Ožna, the Yugoslav security police, put a close watch on Soviet officials. At its Fifth Congress in July, Tito succeeded in reorganizing the Yugoslav Communist Party and expanded its Central Committee and Politburo to include key men of tried and trusted loyalty.

The reorganization was followed by a purge within party ranks. Nevertheless, Tito had to admit that the economic boycott by the Kremlin's satellites hurt him; he was short of oil and other basic commodities as a consequence of his political difficulties with the U.S.S.R. (Since Tito launched his Five-Year plan, 1947-1951, at an estimated cost of over 278 million dinars, it became apparent that the plan depended on Yugoslavia's foreign trade which, after 1945, was predominantly in U.S.S.R. hands.)

Break with Stalin. The breach between Tito and Stalin had been developing some 6 months largely without the knowledge of the West. Tito had to slow down his pro-Communist domestic policy since the Five-Year plan was not doing well—the peasants were not producing enough food. Tito's protests to Stalin that the U.S.S.R. had not delivered the goods and machinery needed for Yugoslavia's Plan brought no results. Tito thereupon discussed with the American Ambassador, Cavenish Cannon, the possibility of unfreezing 50 mil-

lion of Yugoslavia's gold. The Cominform quarrel came to a head in the anti-Tito resolution of June 28 (following the first "brotherly critique" of March 20 from the Central Committee of the All-Union Communist Party in Moscow, and then of almost identical letters stressing the orthodox Communist line, sent to Tito by the Hungarian Communists and all other Cominform parties).

In April, Tito sent a firm letter to Moscow denying all charges and stating that his policies were best adopted to the present condition of Yugoslavia and that they were not inconsistent with the doctrine of Marx and Lenin. (Immediately thereafter Tito ordered the nationalization of small industry and retail trade. A new grain tax was imposed on independent peasants to force marginal farmers to enter cooperatives—the Yugoslav substitute for the collective farm.)

The mid-June issue of the Cominform bulletin attacked Tito directly. Then a personal message was sent to the Marshal from Stalin, warning him of his deviation from orthodox principles of land nationalization. Tito refused to send delegates to the Bucharest meeting of the Cominform (where the headquarters had been transferred from Belgrade) and the Cominform adopted a resolution condemning Moscow's accusations. In turn, Tito declared the right of the Cominform to issue directives to him.

Foreign Relations. Tito's stand helped to improve his relations with the West. He received 17 Italian warships. On July 19 the United States unfreezed Yugoslavia's gold (Yugoslavia agreed to pay the United States \$17 million in settlement of American claims for the nationalization of American property in Yugoslavia, compensation for 2 American transport planes shot down in August, 1946, and settlement of lend-lease and pro-UNRRA accounts). Although Prague-Belgrade relations also cooled off due to the Cominform troubles, a trade agreement was signed on May 24 (to run up to Dec. 31, 1948). The Czechoslovak-Yugoslav talks for a trade pact, held at Belgrade in December, for the purpose of renewing an annual trade treaty, collapsed.

After July 1, Tito sent several notes to Albania protesting against "provocative acts," and on July 3, Albania broke off economic relations with Yugoslavia. Tito had several arguments with Hungary. In the case of Bulgaria, the old problem of Macedonia reappeared, Yugoslavia accusing Sofia of "aggressive nationalism." That Tito's regime did not defect fully from Moscow's camp was evident at the international conferences where Tito's spokesmen reaffirmed in the strongest language that the country was an ally of the U.S.S.R. Frequent Yugoslav-Greek border clashes occurred; in fact, a United Nations' Assembly resolution stated that the "continued aid given by Albania, Bulgaria, and Yugoslavia to the Greek guerrillas endangered peace in the Balkans." See UNITED NATIONS.

The Danube Conference (q.v.), held in Belgrade, July 20-August 18, adopted a new Danube Convention legalizing "the Danube for the Danubians" under Soviet leadership.

On December 23, three agreements, believed designed to help Yugoslavia insure against an economic boycott by the satellite states, were signed with Great Britain. They covered compensation for nationalized and expropriated British property in Yugoslavia, a short-term trade pact, and a money and property agreement. Yugoslavia was to export timber, wood products, and some foodstuffs; Great Britain was to send textiles, raw materials, crude oil, chemicals, and machinery to Yugoslavia. These

commodities are important to Yugoslavia's Five-Year plan of industrialization and will also aid the nation in its economic defense against boycotting actions by the Soviet bloc.—JOSEPH S. ROUCEK

YUKON. A territory in northwestern Canada extending over an area of 207,076 square miles; including 1,730 square miles of fresh water. Population (1941 census): 4,914; (1948 est.) 8,000. Chief towns: Dawson (capital) 1,043 inhabitants in 1941, Whitehorse 754.

Production. Mining is the chief industry, the output for 1946 being valued at \$1,693,904 of which gold (45,286 fine oz.) accounted for \$1,664,260 and silver (31,230 fine oz.) for \$26,124. Final figures on 1947 mineral production show a total value of \$2,095,508, of which gold (47,641 fine oz.) amounted to \$1,667,435 and silver (372,051 fine oz.) to \$267,877. Fur pelts taken in the season 1946-47 numbered 58,777 valued at \$373,176. White spruce has commercial importance; other forest trees are pine, balsam, poplar, cottonwood, and birch.

The amount of fish landed was 265 cwt., valued at \$5,014. The Alaska Highway (British Columbia to Alaska) passes through the southern part of the territory. There are 58 miles of railway, and several landing fields for aircraft. The Yukon River (1,437 miles long) is an important means of communication from the coast to the interior. Finance (1946-47): revenue \$1,270,594; expenditure \$1,158,028.

Government. The Yukon is governed by a controller and a territorial council of three elected members. A member elected to the House of Commons represents the territory in the Federal Parliament at Ottawa. Commissioner: J. E. Gibben, K.C. See CANADA.

ZANZIBAR. A British protectorate consisting of the islands of Zanzibar (640 sq. mi.) and Pemba (380 sq. mi.), off the East coast of Africa. Total area, 1,020 square miles. Population (1945 estimate), 250,000, of which Zanzibar has 150,000, Pemba, 100,000. Capital, Zanzibar (45,276), one of the finest ports in Africa.

Production and Trade. Cloves, the most important industry of the islands, occupies about 48,000 acres and furnishes about 82 percent of the world supply. A total of 310,258 cwt., valued at £1,159,322 was exported in 1946. Production of clove oil in the same year amounted to 410,677 lb., valued at £83,784. The coconut industry ranks next in importance, there being about 57,000 acres under cultivation. Export of domestic copra in 1946 amounted to 8,035 long tons, valued at £204,110. Rice and tropical fruits are also grown. The exports for 1946 totaled £2,163,886, imports, £1,977,996. Chief imports are textiles, tobacco, petroleum, foodstuffs, and cattle.

Government. The estimated 1947 revenue was £824,793; expenditure, £956,753. The protectorate is administered by a British Resident who presides over the Legislative Council, established in 1926. The Sultan, Seyyid Sir Khalifa bin Harub, who succeeded to the sultanate in 1911, presides over the Executive Council and retains considerable authority. British resident, Sir Vincent G. Glenday (appointed Mar. 3, 1946).

ZINC. Domestic consumption of zinc established a peacetime record in 1948, 806,000 net tons of slab zinc (1947: 780,675 tons), despite important increases in price during the year that brought Prime Western grade, East St. Louis, to 17.50 cents per

lb. from 10.50 cents at the beginning of the year. Demand for galvanizing was heaviest, taking 45 percent of the tonnage; castings took 29 percent; brass products took 13 percent, but this industry also consumed heavy tonnages of scrap.

Domestic mine production dropped to approximately 618,000 net tons in 1948 due to strikes in several production areas (1947: 637,608 tons). There was an important decline in the production of the Tri-State District (Kansas, Missouri and Oklahoma) due to a two-month strike. Production of the western States increased some, but this was offset in part by lower production in States east of the Mississippi.

Imports of slab zinc increased about 30 percent over 1947, and came principally from Canada. Imports for the first eleven months of 1948 totaled 84,519 tons (year 1947: 72,312 tons). Imports of zinc ore declined about 10 percent from 1947, 242,371 tons (zinc content) in the first eleven months of 1948 (year 1947: 297,959 tons). Mexico was the principal source of the ore imports, shipping about 50 percent of total receipts by the United States, but this tonnage was well below 1947 shipments. Canada was second with about 20 percent of the total. Receipts from Peru, less than 10 percent, were only half as large as in 1947.

Consumers were hard pressed to obtain enough zinc to keep their plants in operation throughout the last half of the year. At year end, the shortage of zinc was generally conceded to be more acute than that of any other nonferrous metal. In the first three quarters it had been possible for consumers to supplement purchases from producers with shipments from a small stock held by the Office of Metals Reserve. But with the transfer of this metal to the strategic stockpile, this was no longer possible. The United States government was reported to be carrying a stockpile of about 250,000 tons of slab zinc and about 175,000 tons of zinc in concentrates. The present Munitions Board procurement program calls for shipments of about 5,000 tons a month until the middle of 1949.

World smelter production of slab zinc was approximately 1.6 million net tons, excluding the U.S.S.R. and Japan (1947: 1,545,532 tons). The United States was the leading producer with about 845,000 tons (1947: 861,245 tons). Canada was second, 185,000 tons; Belgium, 166,000 tons; Poland, 96,000 tons; Australia, 92,000 tons; Great Britain, 81,000 tons; France, 62,000 tons; Mexico, 56,000 tons; Rhodesia, 25,000 tons. There were gains in the smelter production of all countries except the United States. —JOHN ANTHONY

ZOOLOGY. The thirteenth International Congress of Zoology, the first to be held since before the war, met in Paris in July, 1948, with good representation of zoologists from most parts of the world. Papers covering many fields of zoology were presented and published in summary form. Symposia were held on animal pigments, sex determination and evolutionary mechanisms. The committee on zoological nomenclature adopted a number of proposals designed to make scientific names more stable. Official lists of generic and specific names are to be proposed and once adopted will not be subject to change. Hemming (*Nature*, 162:708) summarized the work of this committee.

A list of the phyla, classes and orders of the animal kingdom was prepared by a committee for the American Association for the Advancement of Science (Duke Univ. Press). Unfortunately it contains several errors.

Ecology; Evolution. In 1883 all life on the island

of Krakatau in the East Indies was destroyed by a tremendous volcanic explosion. After a few years animals and plants began to reestablish themselves and now hundreds of kinds are present. This transformation has been studied over the years by a number of Dutch scientists with important results for evolution, dispersal and ecology. The original data and conclusions are summarized in a large volume by Dammerman (*Trans. Netherlands Royal Acad.*).

A volume by Hatt and collaborators on the life of islands in Lake Michigan (Cranbrook Inst. Science, *Bull.* 27) reveals that the same evolutionary and dispersal factors responsible for the peculiar fauna of older and more isolated oceanic islands are at work. Change in habit in response to the narrower insular environment, the first step in evolutionary modification, is often noticeable as in the voles (*Microtus*), confined to meadows on the mainland but swarming through the forest on the islands, or the peepers (*Hyla crucifer*) which lay their eggs in the shallow water of the lake edge on the islands where ponds of the type frequented by this frog on the mainland are lacking.

Formosov presented an important study of the ecological importance of snow in the lives of birds and mammals (Moscow, Russian with French summary). The important and puzzling cyclic fluctuations in the populations of northern animals were extensively analyzed by Siivonen (Helsinki, *Papers on Game-research*, 1).

Genetics. Volume 2 of *Advances in Genetics* (Academic Press) contains, among others, important papers by Heston on the genetics of cancer, by Mayr on the genetical nature of species, by Catchside on the genetic effects of radiation, and by Dahlberg on human genetics. The last named author also published a book, *Mathematical Methods for Population Genetics* (Interscience Press). An important review volume *Animal Genetics and Medicine* by Gruneberg appeared (Paul B. Hoeber, Inc., 1947). A new British journal *Heredity* contains a bibliography of German publications on genetics during the war and a criticism of the often mentioned "Sewall Wright effect" in genetics by Fisher and Ford, among other contributions.

Anatomy; Embryology; Physiology. Several important studies of the vertebrate brain were published. Eddinger's pioneering work on the evolution of the brain in the horse (as revealed by fossil braincasts) shows that the primitive Eocene horses had brains that were almost at the reptilian level (Geological Soc. Amer.). A monograph on the brain of the tiger salamander (*Ambystoma*) by Herrick (Chicago Univ. Press) contains "the distilled wisdom of one of the keenest minds ever to study the organization of the nervous system as an approach to the problems of behavior."

O. Larsell published an important study of the cerebellum in birds (*Jour. Comp. Neurology*), while in Denmark volume 4 of Krabbe's treatises on the morphogenesis of the mammalian brain was brought out. A copiously illustrated text of comparative anatomy, very up to date in its treatment of evolution and allied subjects, was written in Switzerland by Portmann (Benno Schwabe, Basel).

The New York Academy of Sciences published a significant study of mechanisms of embryonic development, the results of a symposium. Guyenot and others cooperated in a major contribution to knowledge of innervation and regeneration in the forelimb of the salamander (*Rev. Suisse Zool.*, 55).

G. H. Parker summarized his lifelong interest in color transformations in an excellent treatise

Animal Colour Changes (Cambridge Press). Another monograph combining anatomy and physiology is *The Avian Egg* by Romanoff and Romanoff (John Wiley).

H. M. Evans and colleagues wrote a series of papers on pituitary-induced gigantism in rats and its corollaries (*Growth*, 12). Riddle's extensive studies of endocrines and constitution in pigeons and doves (Carnegie Inst. Washington) contain a wealth of valuable experimental data bearing on genetics, physiology and anatomy. Another volume by Riddle and his associates relates to the metabolism of carbohydrates and fats in the pigeon (Carnegie Inst. Washington, 1947). It will be a valuable reference on the basic physiology of the bird. A comprehensive text, *General Endocrinology*, by Turner was brought out (G. B. Saunders).

A bibliography of about 4,000 entries on animal venoms by Harmon and Pollard (Univ. Florida Press) will be of as much interest to zoologists as to physicians.

Animal behavior. In *Hormones and Behavior*, a review volume by Beach, we have the "first complete survey ever made of present knowledge regarding the influence of hormones on animal and human behavior." The school of animal behavior founded in Austria by Lorenz, particularly his concept of "releasers," was expounded with numerous striking illustrations by his follower Tinbergen (*Wilson Bull.*, 60).

Von Frisch's remarkable studies of the dances of the honeybee, brought out obscurely in Austria during the war, were translated and published in English (*Jour. Animal Behavior*, 1947). He found that a bee which has discovered a source of honey can reveal its distance and direction to other bees by means of these "dances." A summary of present understanding of the concept "instinct" by Thorpe will be of value (*Bull. Animal Behavior*, 7). Breder (*Bull. Amer. Mus. Nat. Hist.*, 92) has described the behavior and adaptations of certain tide pool fishes of the Bahamas.

Bird Display and Behavior by Armstrong provides an inclusive, if somewhat uncritical, summary of this field, with an extensive bibliography (London: Lindsay, Drummond).

The perplexing question as to how birds find their way home when removed to a distance, and how they find their goal when migrating, received extended, if somewhat inconclusive, discussion. Yeagley (*Jour. Applied Physics*, 18) suggested that birds detect latitude by sensitivity to the inclination of magnetic lines of force, and longitude by detecting the Coriolis force due to the rotation of the earth. Yeagley's work has been much criticized both from a theoretical and experimental point of view. It seems virtually certain that the forces he would invoke are too slight and too much cloaked by other forces to be of service to birds. This is best brought out in a symposium held in England (*Nature*, June 26, 1948).

Meanwhile Griffin and Hock (*Science*, 107) released gannets (*Morus bassanus*), a coastal bird, inland at a distance from their nests and followed them in an airplane. They seemed to seek home solely by circuitous wandering until the coast, with which they were familiar, was reached. The homing feats of certain other species of birds, however, make it unlikely that all homing in strange territory has its basis in trial and error.

Invertebrates. The first volume of the *Annual Review of Microbiology* (Stanford Univ., 1947; C. E. Clifton, editor) summarizes recent studies of protozoa. A fully annotated bibliography on oysters by Baughman appeared (Texas A. and M. Col-

lege). Extensive studies of the Coelenterata of Belgium by Leloup and of the freshwater and terrestrial molluscs of Belgium by Adam were issued by the Royal Natural History Museum of Belgium. Oughton completed a study of the zoogeography of the land snails of Ontario (Univ. Toronto Press).

Kaston's large and well illustrated work *Spiders of Connecticut* (State of Conn.) will be of value far beyond the confines of this State. Bryant wrote on the spiders of Hispaniola (*Bull. Mus. Comp. Zool.*, 100), while Snodgrass completed a valuable anatomical study of the feeding organs of arachnids.

The Songs of Insects by G. W. Pierce (Harvard Univ. Press) is by an author who is primarily a physicist. The result is a model investigation of this fascinating subject. Of papers on a particular group of insects, Uvarov's reviews of the literature on the economically important Acrididae (locusts) may be mentioned (*Trans. Royal Ent. Soc. London*, 99; and *British Mus. Publ.*).

DeLong monographed the Cicadellidae (leafhoppers), another group of agricultural pests (*Bull. Illinois Nat. Hist. Sur.*, 24), while Braun wrote extensively on the Microlepidoptera (*Memoir Amer. Entom. Soc.*). The aquatic beetles of the family Corixidae were treated at length by Hungerford and Sailer (Univ. Kansas Press). Vaurie reviewed the North American members of another family of beetles, the Languriidae (*Bull. Amer. Mus. Nat. Hist.*, 92).

Of more biological interest is Nielsen's study of the development and biology of the caddis flies (Hydroptilidae) (*Danish Royal Soc. Biol.*, 5). The anopheline mosquitoes of South Africa were the subject of a book by De Meillon (S. African Inst. Med. Res., 1947). Of medical importance as vectors of malaria, these mosquitoes also present many problems to the student of speciation.

Zimmerman's *Insects of Hawaii*, of which five of ten proposed volumes appeared, is the most important regional work of the year in entomology. The first volume is devoted to a description and analysis of the evolutionary peculiarities of the Hawaiian fauna, of which the insects provide many examples. The Institute of National Parks in Belgium published more in the series of technical monographs on the natural history of Albert Park, Belgian Congo, the latest dealing with various families of insects.

Cold blooded vertebrates. A notable review of the distribution of cold blooded vertebrates by Darlington (*Quart. Rev. Biol.*, 23) makes tropical Asia an important evolutionary center for this group. Berg's important classification of fishes, hitherto available only in Russian, was published in English (J. W. Edwards, Ann Arbor). Schultz' *The Ways of Fishes* (Van Nostrand), though popular in approach, contains much information and a classification. A completely revised edition of Hubbs' and Lagler's valuable *Fishes of the Great Lakes Region* was issued (Cranbrook Inst. Science, 1947). Miller continued his studies of the distribution and evolution of fishes in the isolated springs of the Great Basin desert and Death Valley (*Univ. Michigan Publ. Zoology*).

The first general review of the biology of the amphibians in many years was written by Angel (Payot, Paris, 1947). Pickwell's *Amphibians and Reptiles of the Pacific States* (Stanford Univ. Press) is a popular but well illustrated and informative volume. Continuing their work on the Mexican fauna, Smith and Taylor published a check-list and key to the amphibians of Mexico.

The reptiles and amphibians of New Guinea

were the subject of an extensive paper by Loveridge (*Bull. Mus. Comp. Zool.*, 101). De Witte and Laurent published complete taxonomic revisions of some of the Colubrine snakes of Africa (Royal Belgian Mus. Nat. Hist., 1947).

Birds. Older beliefs that birds hibernate are considered myths, yet Jaeger has now shown that the poor-will (*Phalaenoptilus*), a species of nightjar, may spend days or weeks of inclement weather during the winter in a hibernation-like, comatose condition (*Condor*, 50). Cott (*Proc. Zool. Soc. London*, 116) found that the flesh of brightly colored or conspicuous birds is less palatable to flesh eaters, including man, than is that of dull-colored birds. The bright colors of the former group, therefore, are believed to have the function of warning potential enemies.

Volume 6 of Peter's *Check-list of Birds of the World*, treating the woodpeckers and allied families, appeared (Harvard Univ. Press). Another valuable reference work, *Catalogue of Birds of the Americas*, neared completion with the publication of a volume by Hellmayr and Conover on the waterbirds (Chicago Natural Hist. Mus.). Bent's great series on the life histories of North American birds reached 16 volumes with the appearance of one covering the wrens and related groups (U.S. Nat. Mus., *Bull.* 195).

Among works pertaining to more limited areas may be mentioned Bailey's excellently illustrated *Birds of Arctic Alaska* (Colorado Mus. Nat. Hist.). Bond's volume on the birds of the West Indies deals with a remarkable insular fauna, notable for the high percentage of species that have become extinct (Macmillan, 1947). Van Bemmell's list of birds of the Molucca Islands (*Treubia*, 19) complements recent lists of birds of most of the adjacent island groups. A monographic study, *The Ruffed Grouse*, by Bump and collaborators is one of the most exhaustive studies ever made of a game bird (N.Y. Conservation Comm.).

O.L. Austin, Jr., in charge of conservation for the military government in Japan, published a carefully annotated list of Japanese publications on birds and mammals during the war (U.S. Fish and Wildlife Serv., *Tech. Leaflet* 305). Among the important works by Japanese scientists, many of them published in English, may be mentioned Kuroda's bibliography of the duck tribe, Yamashina's studies of the chromosomes of birds and hybrid sterility, and a study of the physiology of molt in the canary by Kiyochi and Hideshi. Austin himself contributed a valuable volume on the birds of Korea (*Bull. Mus. Comp. Zool.*, 101).

Mammals. Among regional works Rand's account of the mammals of Alberta, Canada (Canad. Nat. Mus.), Dalquest's *Mammals of Washington* (Univ. Kansas Publ.), and Handley and Patton's report on the mammals of Virginia (Va. Comm. Game, 1947) deal with portions of North America. The unique mammalian fauna of Australia was reviewed in an informative, semi-popular volume, *Furred Animals of Australia* (Scribners, 1947).

The earliest fossil mammals of South America, of interest because of their peculiar evolutionary history during the long geological isolation of that continent, were the subject of the first of a projected series of volumes by Simpson (*Bull. Amer. Mus. Nat. Hist.*). The same journal published further results of Tate's studies of the anatomy and taxonomy of the marsupials, and a revision of the fossil bison of Alaska by Skinner and Kaisen.

The American pronghorn antelope, of interest as a game species and as the only surviving member of its family, is the subject of a book by Einarsen

(Wildlife Management Inst.). The whales and dolphins of the west coast of the United States are discussed in an excellently illustrated article by Scheffer and Slipp (*Amer. Midland Naturalist*, 39). Other important studies of marine mammals are listed by Austin in the bibliography of Japanese publications mentioned above, along with other works of interest on the mammals of eastern Asia.

Anthropology. A memorial volume presented to the veteran South African anthropologist, Robert Broom, contains several articles by recognized authorities on *Australopithecus* and the other "ape-men" known from African fossil material (Royal Soc. South Africa). Later in the year Dr. Broom,

in cooperation with scientists from the United States, discovered a new fossil man in Africa of much larger size than any hitherto known from that continent. It may be related to the giant fossil pre-human types known from Java and southern China.

Another African discovery, this by a British expedition, was of a skull of the Miocene ape, *Proconsul*, previously known from fragments only. It lacked the pronounced ridges above the eyes characteristic of living anthropoid apes, such as the gorilla, and thus may have been an evolutionary point of departure for some of the earlier pre-human types in which such ridges tend also to be inconspicuous.

—DEAN AMADON

GLOSSARY

GLOSSARY

OF IMPORTANT NEW WORDS AND WORDS IN THE NEWS

Compiled by HAROLD WARD

- ac-globulin.** A protein discovered in 1944 by a Norwegian physician and now known to be associated with four other factors in the blood-clotting process, serving especially to accelerate the production of prothrombin.
- Acro-theater.** An art form which combines dramatic performances with acrobatics and strenuous physical display. Established in Chicago in 1947 by Erwin P. Beyer, Gymnastic Coach of the University of Chicago.
- airdrop.** To drop supplies by parachute from an airplane; by extension, the delivering of supplies in this manner and the supplies themselves.
- airfreighter.** An airplane designed to carry heavy freight.
- airlift.** The operation of transporting foodstuffs and other consumer goods into Berlin by airplane; organized under American initiative during the land transport blockade imposed by the U.S.S.R. in 1948.
- airillery.** Air artillery; especially with reference to the long-range guided missiles which it is believed will replace bombers and heavy guns in future wars.
- Americanocracy.** Economic and political domination of a country by the United States. Term attributed to Niklas Zachariades, Secretary of the Greek Communist Party, in an attack upon American intervention in Greece.
- aminopterin.** A synthetic drug under investigation in the treatment of acute leukemia in children. Chemical name, 4 aminopteroyl-glutamic acid.
- Anacom.** An electrically operated analytic computing machine designed to solve complex mathematical problems pertaining to electrical circuits, hydraulics, thermodynamics, and various types of machinery.
- anhydrovitamin A.** A substance obtained by treating vitamin A with an acid to remove its water content; it has an action similar to but very much weaker than that of vitamin A but its function is not yet clearly understood.
- Antrycide.** Trade mark of a synthetic crystalline compound developed by British scientists in the search for a drug effective against trypanosomiasis in cattle, especially in tropical Africa. It is derived from a group of organic compounds chemically designated as the 4-amino-6-(2'-amino-6'-methylpyrimidyl)-4'-amino quinaldine-1:1'-dimetho salts, all of which were found to have trypanocidal properties against laboratory infections.
- APF.** Animal protein factor. See VITAMIN B-12.
- aquametry.** Quantitative chemical analysis applied to reactions involving water.
- atomic clock.** A high-precision instrument for the measurement of time by a constant frequency derived from a microwave absorption line in the spectrum of ammonia gas or other suitable vibrator. Developed in the U.S. Bureau of Standards and believed to have a potential accuracy of one part in as high as 10 billion.
- aureomycin.** An antibiotic extracted from a mold fungus (*Streptomyces aureofaciens*), differing from penicillin and streptomycin in having a specific effect on viruses; so called from its golden color. Isolated by Dr. B. M. Duggar and associates.
- autotronic.** Describing a system for the automatic, electronically controlled operation of banks of elevators in office buildings; designed especially to relieve traffic congestion during rush periods in accordance with signals which actuate properly adjusted electronic devices.
- avogram.** That quantity of matter which is equal to one gram divided by Avogadro's number; a term proposed by a group of American chemistry teachers.
- bacillomycin.** An antibiotic isolated from a soil micro-organism (*Bacillus subtilis*), found to be effective against certain fungi, especially that causing athlete's foot.
- balladromic.** Traversing a direct course; heading to hit the target; said of guided missiles.
- bepo.** A British experimental pile, slightly larger than the gleep and also located at Harwell; used in research on atomic energy. Its power rating is about 6,000 kilowatts.
- bibliophenom.** A person with a phenomenal knowledge of books, authors, publishers, editions, and related topics; used humorously by Bennett Cerf in description of a New York dealer in rare books.
- biobibliography.** A combination of biographic and bibliographic information; a commemorative or memorial bibliography.
- bisociation.** A state of conflict between two contrasting or hostile systems of thought occupying the mind simultaneously or in rapid alternation. Term used by Arthur Koestler in his book *Insight and Outlook*.
- boval.** A natural clearing in a forest due chiefly to erosion of the soil overlying a ferruginous crust; hence, **bovalization**, the process of forming such an area, to the detriment of soil fertility.
- brachydromic.** Heading short; taking a deflected or slanting path toward the target; said of guided missiles.
- cardiolipin.** A phosphorus-containing substance extracted from beef heart and of value in checking blood tests for syphilis in persons who have had malaria or have been vaccinated against certain diseases: isolated by Dr. Mary C. Pangborn of New York.
- cartophily.** The collecting and appreciation of the pictorial cards formerly enclosed in packages of cigarettes; hence, **cartophilist**, one who collects these cards.
- cenogonal.** Having one or more angles in common; applied especially to different crystals some of whose angles have identical values. Term proposed by A. F. Rogers of Stanford University.
- cepharanthine.** A drug related to quinine; developed by Japanese chemists and under investigation as of possible value in the treatment of tuberculosis.
- channel wing.** A type of airplane wing which resembles a half-section of a cylinder, curving downward and having an engine at the center of the arc connected with a propeller. It is claimed that such wings permit easy take-off and landing.
- chemastery.** A pedagogical aid in the teaching of chemistry, based on the use of playing cards picturing various chemical symbols, formulas, valences, etc. Designed by H. M. Demuth.

chemonomics. A proposed term for chemical economics, especially with reference to chemical market research; coined by C. D. Ulmer of the Koppers Co.

chemosurgery. A medical technique which utilizes chemistry, surgery, and microscopic analysis; applied especially in the removal of skin cancers.

cinematome. An apparatus for the examination of very thin sections of rock samples extracted from oil-bearing formations; it consists of a specially designed microtome which feeds the rock slices to a motion-picture camera, the developed film then being carefully studied for peculiarities of rock structure.

clathrate. Any of a class of quinol compounds whose quinol molecules are so interlocked through hydrogen bonds as to form infinite three-dimensional complexes of trigonal symmetry. Term proposed by the English chemist Powell in allusion to the enclosed or protected nature of the giant molecules of the compound.

clinodromic. Traversing a path held at a constant angle with respect to a moving target; said of guided missiles.

clinoscopic. Viewing aslant; specifically, sighting to keep a guided missile in line with a shifting target.

cocoon. The special weatherproof covering in which valuable military or other equipment may be tightly sealed during transport or when not in use. It is usually in the form of cellophane sheets or a liquid resin which may be sprayed onto the surface, where it dries instantly, forming a tough film.

condylometer. A dental instrument which indicates the exact bite of a patient by facilitating observation of the condyle bones of the jaw.

cosmotron. An immensely powerful atom-smashing machine under construction at the Brookhaven National Laboratory of the Atomic Energy Commission. It is designed to bombard the nuclei of atoms with particles having energies comparable to those of cosmic rays, or from 2.5 to 3 billion electron volts.

criminalistics. That branch of criminology which deals especially with the scientific methods of crime detection.

cybernetics. A new science which, in the words of its originator, Norbert Wiener, an American mathematician, studies "the common elements in the functioning of automatic machines and of the human nervous system" in order "to develop a theory which will cover the entire field of control and communication in machines and in human organisms." The term is from a Greek word meaning steersman.

Darvisul. See PHENOSULFAZOLE.

de-cocoon. To remove the cocoon (special weatherproof covering) from military or other equipment, prior to installation and use.

delitology. The collecting of postcards as a hobby.

dihydroergocornine. A drug considered promising in the treatment—not cure—of high blood pressure; it is derived from ergot and acts by a blockage of sympathetic nerve impulses.

discophile. A collector and connoisseur of phonograph recordings.

disinflation. A general reversal in the trend of industrial production, commodity markets, and prices after a prolonged boom period; term coined by Geoffrey Crowther, an English economist.

dithiobiuret. A growth-promoting chemical developed by a research group at the University of

California; it has been shown to prolong the life of grape-vine cuttings when applied in proper concentration.

Dixiecrat. A member of the Democratic Party in the United States who rejected the plank of civil rights of the party platform and its candidate for the presidency; especially one from the southern States: word coined during the 1948 presidential campaign. See STATES RIGHTS PARTY.

Dramamine. Trade name of a synthetic drug found beneficial in the treatment and prevention of seasickness. Discovered by medical research workers at Johns Hopkins University. Chemical name, betadimethyaminooethyl benzohydril ether 8-chlorotheophyllinate.

dropsonde. A radiosonde which, instead of being sent up into the atmosphere by balloon, is dropped by parachute from an airplane flying above difficult terrain not suitable for ground stations, as in deserts and arctic regions.

duo-stroller. A baby carriage built to accommodate two children.

echridine. An organic compound derived from pyridine, which has been found effective against fungi causing athlete's foot and ringworm and in the prevention of certain fungus diseases of plants.

Econometer. An apparatus for exhibiting the correlations between selected groups of economic data. The factors chosen are represented on opposite sides of a large disk on which value relationships are shown by an indicator which controls the rise and fall of colored liquids in a series of flasks.

Econorama. An array of machines designed to illustrate various aspects of economic theory by the use of such graphic devices as dials, pointers, colored liquids, models, graduated scales, and the like. Similar in purpose to, but more elaborate than, the Econometer, it was invented and built by an American industrialist, J. D. Mooney.

electrokymograph. An instrument for recording and measuring the action of the heart by means of X-rays which project the heart-shadow upon a fluorescent screen used in conjunction with a photoelectric cell.

electromyograph. An instrument resembling the electrocardiograph, but adapted for recording electric waves set up in muscles, converting them into both sound and visual records.

Electronic Flight Simulator. An exact, full-scale replica of the cockpit of an airplane designed for the ground training of flight crews under all flying conditions.

electronography. A method of printing without direct contact between paper and inked surface by means of an applied electric charge which ionizes the ink particles, causing them to migrate from the type or printing plate to the oppositely-charged printing surface. Invented by W. C. Huebner. Also called *electromigratetics*.

electrophrenic. Describing a method of artificial respiration which depends upon the electrical stimulation of one or both of the phrenic nerves.

estron. A generic term proposed by the Tennessee Eastman Corporation to distinguish all types of cellulose acetate fibers, yarns, and filaments from the rayon types, which use regenerated cellulose.

ethnolinguistics. The study of linguistics in relation to other elements of human culture; language treated as an integral part of sociobiology.

evapotranspiration. The physiographic processes of evaporation and transpiration, treated as a functional unit in the study of climate.

Fair Deal. President Truman's name for the program and policies of the government under his administration, as given in his State of the Union message before Congress, Jan. 5, 1949.

feedlift. The emergency feeding of stranded livestock by supplies of hay and other fodder dropped from airplanes to range areas isolated by storms, blizzards, and extreme cold. This "Operation Hayride" was performed by U.S. Air Force planes to save starving cattle trapped on Western and Rocky Mountain ranges during the exceptionally bitter winter of 1949.

Fiber A. See ORLON.

flaperon. One of the winglike surfaces which provide for the automatic control of speed, lift, and altitude in a rocket or guided missile: a device combining the functions of a flap and aileron in an airplane.

Fotosetter. Trade name of a printing machine by means of which the copy is first photographed and then transferred directly to the printing surface from the film.

gleop. The British graphite low-energy experimental pile, installed at Harwell for atomic energy investigations and the production of radioisotopes. It operates at a rate of about 100 kilowatts.

goitrogenesis. The act or process of producing goiter; whence **goitrogen**, any substance capable of initiating or promoting such a growth.

guppy. A high-powered, diesel-engined submarine equipped with an extensible air-intake tube (the schnorkel) to permit long periods of undersea operations at great depths. Developed in the U.S. on the basis of captured German designs. Name from the initials of Greater Underwater Propulsive Power \pm Y.

hankie-hatter. The British equivalent of hobnobber, so called because she wears a kerchief in place of a hat.

helicodromic. Having a slight path curving like a corkscrew or bent screw spiral; applied to guided missiles.

heliport. An airport for helicopters, especially one located in small and congested urban areas not accessible to regular airplanes.

herringbone. A peculiar up-and-down distortion of a television image, due to interference from wave frequencies set up by diathermy machines. Sometimes called *Parker method* from its resemblance to the old-fashioned method of penmanship.

historiate. To provide (a map, chart, or the like) with interesting historical details, often in the form of pictures in color.

holidate. A holiday date; a sharing of all or part of one's vacation time with another person.

Hydrafrac. Trade name of a method for loosening underground rock formations by means of jellied gasoline pumped down an oil well, thus permitting the imprisoned oil to flow to the surface along with the recovered gasoline.

hydrofoil. A winglike structure placed under a speedboat to lessen drag by raising the hull completely out of the water.

hydrolube. A non-flammable, non-corrosive, anti-freeze liquid for use in the hydraulic system of airplanes; developed by the U.S. Naval Research Laboratory.

hydronic. Contraction of hydrodynamic, especially as applied to the study of airplane design and performance.

hydronitrogen. Any of a class of chemical compounds containing hydrogen and nitrogen, as ammonia, hydrazine, etc.

hypersonic. Pertaining to or characterized by very high supersonic velocities, especially those with a Mach number of 5 or greater.

INBA. A plant-growth regulator which has been made radioactive to permit an exact tracing of its course through the plant.

isosyst. The state or condition of constant composition throughout a given experiment; applied especially in studies of chemical phase equilibria. Term suggested by V. C. Williams, an American chemist, on the analogy of *isobar*, *isotherm*, etc.

isotone. The stable nucleus of an atom or any of its isotopes; term suggested by Maria G. Mayer, American nuclear physicist.

kappa. A substance of undetermined composition present in the cytoplasm of certain stocks of the unicellular organism *Paramecium* and essential to the production of paramecin. Although located outside the chromosomes it is believed to exert a powerful, and under certain conditions a permanent, effect upon the genes and hence upon the processes of inheritance. Discovered by T. M. Sonneborn and associates.

K-band. A band of microwave frequencies below 3 centimeters in wavelength; used in radar.

Keedoozle. Trade name of a type of grocery store which dispenses canned or packaged goods on the principle of the Automat or juke box, the customer recording selections on a special tape-device whose various punchings are then made to actuate corresponding chutes. Devised by Clarence Saunders.

khellin. A substance extracted from the fruit of a Middle East plant (*Amni visnaga*) and shown to have a strong vasoconstrictor effect on the blood vessels of the heart.

kynurenin. An organic compound formed by the break-down of the amino acid tryptophane; it is believed to participate in the formation of nicotinic acid.

litterbug. A person who is careless in disposing of garbage, waste, and litter; one who violates or ignores street-cleaning regulations.

lorate. To disseminate or spread about, as news, gossip, information, etc. Also, **lorating.** Possibly from *loran*, the navigation system developed during World War II.

LP record. A long-playing phonograph record, constructed with grooves so close together that one face of a 12-inch disk will carry a 22½-minute recording. Developed by Peter Goldmark of the Columbia Co.

Lysenkoism. The body of doctrine regarding the nature and processes of inheritance associated with the Soviet agronomist Trofim D. Lysenko. It challenges the formal genetics of Weismann, Mendel, and Morgan, claiming that the genes may be permanently modified by somatic conditions, especially in regard to nutrition, and that individually acquired characters may, under suitable conditions, be inherited.

marblemania. An over-emphasis upon ornate and intimidating marble effects in public buildings, especially art museums, theaters, etc.

Methadon. Trade name for a powerful narcotic used as a substitute for morphine in the relief of extreme pain; developed in Germany and under investigation in the U.S.

methoxychlor. A powerful insecticide, related to but less toxic than DDT; tests have shown it to be effective against lice, flies, the Mexican bean

beetle, and certain other pests. The chemical name is *p*-methoxyphenyl trichloroethane.

Metopon. Trade name for a morphine derivative which has been found effective in relieving the intense pain of those in the last stages of cancer.

microcard. A standard 3 × 5-inch library card on which are pasted microfilm reproductions of books, pamphlets, documents, etc.; designed to be read by a special device called the Scrutinizer.

microgroove. An LP disk; so called from the exceptional fineness of the grooves cut into its surface.

micronutrient. A substance, especially certain metals, whose presence in minute quantities is essential to the health of man and animals.

migratetics. See ELECTRONOGRAPHY.

motorboating. The tendency of an audio system to emit a succession of pulsating sounds resembling that of a motorboat; it is associated with feedback of certain audio frequencies.

myanesin. A chemical derived from glycerin and thought to be of value in the treatment of various neuro-muscular disorders.

neo-materialism. A philosophic system formulated by S. W. Tromp, a Dutch geologist; it seeks to integrate the various fields of scientific knowledge so as to provide a materialist base for the reevaluation of all moral and religious concepts.

nitrogation. A method of fertilizing the soil by direct application of liquid anhydrous ammonia to the irrigation water; used on farms in the U.S.

nitrojection. The direct application to the soil of anhydrous ammonia gas as a means of improving its fertility; the method was first commercially used in the U.S. in 1943, subsequent to the nitrogation process.

omnirange. A type of very-high-frequency radio beams emitted in all directions simultaneously. Developed in the U.S. as an aid to air navigation, permitting aircraft pilots to find their course and position anywhere within the network of about 400 omnirange stations.

operational research. Described by P. M. S. Blackett, a leading British scientist, as "the technique of the scientific analysis of war"; by extension, any application of scientific method and technical resources to peacetime operations, especially with reference to planned development.

Operation Hayride. See FEEDLIFT.

Orlon. Trade name of a synthetic fiber made from acrylonitrile, an ingredient of Buna N synthetic rubber. Preliminary tests show it to possess great strength, toughness, and durability, especially as a fabric for curtains, drapes, seat coverings and the like. Formerly referred to as Fiber A.

ostreodynamometer. An instrument capable of detecting the movements of an oyster within its shell and without disturbing its normal activities. Developed to study the effects of water pollution on oysters.

overtake. In printing, proofread galleys: term used by Winston Churchill (1948). Compare earlier figurative use of the verb (1830), indicating completion of a task beset with difficulty or hindered by other intervening business.

oversigned. The person whose name appears at the beginning of an article, document, report, etc.; analogous to *undersigned*.

polynology. The scientific study of pollen and other spores, their dispersal and applications; pollen analysis: term proposed in 1944 by British researchers.

paramecin. A powerful nucleoprotein which occurs within the bodies of certain paramecia, where its production is controlled by the cytoplasmic factor kappa. It is transmitted by inheritance within certain strains of the organism and is generally lethal to other strains lacking in kappa. Discovered and isolated by T. M. Sonneborn and associates in research on genetics in *Paramecium*.

parathion. A synthetic insecticide developed in Germany; it is effective against mites and toxic for many other insects attacking fruits and vegetables. It is also highly toxic for warm-blooded animals and may be distinguished by its garlic-like odor.

Parker method. See HERRINGBONE.

permenorm. A nickel-iron alloy that has the property of becoming highly magnetized when placed in an electric field, thereby improving the performance of vacuum tubes, amplifiers, and rectifiers. Developed in Germany.

petrochemistry. The chemistry of petroleum and its derivatives, especially the natural and synthetic hydrocarbons.

phellumenist. One who collects matchbox labels; also, **phellumenism**, the collecting of such objects. British coinage.

phenosulfazole. A modified sulfa drug reputed to have value in the treatment of poliomyelitis. Also called *Darvisul*.

Phenurone. Trade name of a derivative of phenobarbital reported to be of therapeutic value in the treatment of epilepsy.

photocomposition. The composing of printed matter by photographic means rather than directly from movable type; a method coming into use through such machines as the Fotosetter and Phototext-type.

photodiagram. A diagrammatic view, as of a factory, community, etc., superimposed upon an actual photograph of the area.

photo-skinned. Describing a terrain relief model over whose surface corresponding aerial photographs have been pasted in exact alignment.

plasmagene. A factor present in the cytoplasm of a cell which is believed to play a significant, and sometimes decisive, role in the mechanism of heredity; an extra-nuclear replica of the gene, subject to the influences of the cellular environment.

plasthetics. Plastics, resins, and other synthetic products, considered as forming a single branch of chemical science, technology, and engineering. Term coined by British chemists.

plastisol. A suspension of finely divided resin particles in a plasticizer: useful in the application of plastic coatings to various surfaces.

Polacolor. Trade name of a three-color motion-picture process by means of which the separate color images are imposed on a single layer of standard black-and-white film.

pollster. One who takes public opinion polls; derisively, one who makes overconfident or inaccurate predictions based on the data of such polls, as happened in the U.S. Presidential election of 1948.

polo-crosse. A combination of polo, lacrosse, and netball, played by mounted teams of six on a side, the polo sticks having a net on the end instead of a mallet. Introduced in Australia.

polymixin. An antibiotic discovered in a soil bacillus by American scientists; it is believed to be more effective than streptomycin in the treatment of certain diseases, especially undulant fever, tularemia, and a type of meningitis caused by Friedlander's bacillus.

precoat. To apply (to metals) a thin surface-layer by hot-dip or electroplating methods in order to improve quality, wear, or performance of metal parts. Also **precoating**.

Progressive Party. A new political party calling for a program of "peace, freedom, and abundance" established in Philadelphia, July 23, 1948. It nominated Henry A. Wallace for President of the U.S. and Glen H. Taylor for Vice President.

psychoquack. One who practices psychiatry without adequate training or license; a quack psychiatrist.

quantum liquid. Helium in the superfluid condition; so called because it confirms the prediction of quantum theory that even at the temperature of absolute zero there is motion among the molecules.

radiocardiography. A method for studying the blood flow through the heart by recording the passage of injected radioisotopes with the aid of a specially constructed Geiger-Muller counter connected with a pen which traces the radiocardiogram on graph paper.

raster. The pattern of variably luminescent lines traced on a radar, television, or other viewing screen by the movement of the cathode-ray beam across the photosensitive surface of the transmitting unit.

resinography. The study of the structure of synthetic resins; especially, the microscopic examination of the etched or polished surfaces in order to identify the various pigments, fillers, or other substances entering into their composition. Hence, **resinographer**, a specialist in this technique.

resistentialism. A humorous British parody on existentialism, attributed by its author, P. F. Jennings, to a mythical Pierre-Marie Ventre. "Pre-atomic philosophies were concerned with what men thought about things. Resistentialism is the philosophy of what Things think about us."

roentgen equivalent physical (r.e.p.). Radiation of an intensity such that it may be absorbed at the rate of 83 ergs per gram of tissue. Also called **roentgen equivalent man (r.e.m.)**.

rotachute. A parachute for use with rockets or in high-altitude airplanes. It is in the form of a long, dartlike tube equipped at the tip with a propeller whose horizontal blades, by their swift rotation during descent, break the fall of delicate instruments, supplies, or other loads attached to it.

Rouxcolor. Trade name of a 4-color motion-picture process in which the separate images are superimposed on one standard frame, both camera and projector lenses using filters to achieve the final color image. Developed by A. and L. Roux, French technicians.

rutherford (rd). Proposed name for a unit of radioactive disintegration smaller than the curie and independent of any natural constants: defined as that quantity of a radioisotope which disintegrates at the rate of a million disintegrations per second. Term suggested by E. U. Condon and L. F. Curtiss, American physicists.

sabosterite. A hygroscopic, dielectric, anti-acid mineral discovered in southern Italy.

Salamander. An unmanned, remote-controlled amphibious craft developed by the U.S. Navy toward the end of World War II for use against enemy mines and for the demolition of beach defenses prior to attack by landing forces. Also called **X-craft**.

scopodromic. Traversing a course in the line of sight; homing; applied to guided missiles.

sengierite. A radioactive mineral discovered in the Congo and shown to contain copper, uranium, and vanadium in hydrous form. Named after Edgar Sengier, Belgian mining executive.

serotonin. A crystalline protein isolated from beef serum and believed to be associated with vasoconstrictor activity in blood vessels.

Shellie. Trade name for a collapsible, disposable nursing bottle for babies.

simulcast. To broadcast by radio and television simultaneously.

SKF 538-a. A synthetic pain-killing drug having many times the potency of cocaine; under investigation as a local anesthetic. Chemical name, 1-(*B*-dimethylaminoethoxy)-4-butyl-isoquinoline.

slope-line. A system of lights so arranged on an airfield as to form a pair of sharply defined converging lines between which an aircraft pilot may guide his plane to a safe landing.

sociobiology. The study of human sociological phenomena from the viewpoint and in terms of the biological and physical sciences; biophysics as applied to sociology. Term proposed by C. F. Hockett of Cornell University.

spasmolytic. Having the power to relax spasms; anti-spasmodic; said especially of various drugs, **spasmolytes**, capable of relaxing spasms in certain smooth muscles.

Spirodome. Trade name for an experimental apparatus combining the functions of a respirator and oxygen tent, designed to give the exact amount of oxygen at the correct pressure needed for normal breathing.

sprig. The branched small sparks appearing in the stream of sparks emitted in grinding iron or other metal.

spurchase. A purchase made on the spur of the moment; something bought on impulse. Term coined by marketing specialists of the Du Pont Co.

STAMNI. An instrument for the accurate measurement of airplane speeds by the use of high frequency sound waves; adapted also for the determination of the Mach number. Name a contraction of "sonic true airspeed and Mach number indicator," developed at the Cornell Aeronautical Laboratory.

States' Rights Party. A political party founded during May, 1948, in Jackson, Miss., by southern Democrats who opposed the civil rights program of the regular Democratic Party. At its Birmingham, Ala., convention, July 17, it chose Governor James Strom Thurmond of S.C. as its 1948 Presidential candidate.

submariner. A qualified and fully trained member of a submarine crew.

sulfamethazine. A sulfa drug believed to be effective in controlling certain animal diseases, as mastitis in cows and shipping-fever in horses.

sulfaquinoxalin. A sulfa drug which has been successfully used in the control of the destructive poultry disease, coccidiosis; developed by chemists at the Rhode Island State College.

superfluid. A peculiar state of matter, noted only in helium when cooled to within a degree of absolute zero. Among its properties are an exceptional heat conductivity, the ability to permeate very dense substances, and to flow upwards against gravity. Called also **quantum liquid**.

Swartkrans man. A race of giant ape-men whose former existence is inferred from the anatomical characteristics of a single huge fossil jawbone

- and teeth discovered by Dr. Robert Broom in the Swartkrans cave in Africa.
- TAPLINE.** The Trans Arabian Pipe Line.
- tele-juke.** A juke box equipped for television.
- tele-transcription.** A method for the transcribing of television programs on films for subsequent presentation; also, the film itself.
- thesauric.** Encyclopedic; having or containing large stores of miscellaneous information, most of it useless; used in a description of the radio comedian Robert Q. Lewis.
- thiazolyl.** A synthetic drug of the sulfa type now under investigation as of possible therapeutic value in the treatment of polio.
- throughput.** The quantity of raw materials which may be processed for intended final use in a given time, as in a chemical plant for the conversion of paraffins to fatty acids.
- thujaplicin.** A crystalline substance isolated by Swedish chemists from an oily extract of the heartwood of the western white cedar (*Thuja plicata*); it may prove to have useful antibiotic properties.
- tomodromic.** Having a flight path which cuts athwart a moving target; heading to cut or intersect; applied to guided missiles.
- topectomy.** A brain operation in which certain affected areas are removed with little or no damage to the patient's normal personality.
- transistor.** A very small, compact, and highly efficient device for the instantaneous control and amplification of an electron current without using a vacuum and at low power consumption. The current from a fine tungsten wire strikes a crystal of germanium which transmits it, greatly amplified, to another tungsten wire connected with the receiving apparatus. The device, developed by scientists of the Bell Laboratories, may replace the vacuum tube in many electronic applications.
- tricothecin.** An antibiotic extracted from a fungus (*Tricothecium roseum*) and shown to be effective in arresting the spread of certain other fungi by impairing their reproductive powers. Discovered by chemists of the Imperial Chemical Industries (England).
- trifocal.** Having three foci; said especially of a lens one segment of which corrects for near vision, another for far vision, and the third being adapted for intermediate vision.
- Trimeten.** Trade name of the organic compound propenpyridamine, reported to have been effective in the treatment of various types of allergy.
- trudgery.** Hard, tiresome, and monotonous labor involving incessant trudging from one place to another.
- Tuf-lite.** Trade name of a hard, durable plastic formed from butadiene-styrene resins; suitable for use in bowling balls, shockproof helmets, etc.
- Turbo-Wasp.** A jet propulsion engine designed in England and improved in the U.S. It operates with a single-stage, double-entry centrifugal compressor, nine combustion chambers, and an axial flow gas turbine, delivering the equivalent of 9,000 horsepower.
- Twilight War.** Winston Churchill's name for the "phony war" period of World War II, which ended when he became Prime Minister; used in his book, *The Gathering Storm*.
- twofer.** A free coupon which entitles the holder to two theater tickets for the price of one if presented at the box office of the designated show or other attraction.
- Uniforce.** The combined military forces of the proposed Western Union defense pact between Britain, France, and the Benelux countries, with headquarters at Fontainebleau. The principal sections are the Uni-air, Uni-terre, and Uni-mer, for the air, land, and sea forces respectively.
- update.** To bring up to date; to revise, with corrections, additions, etc., as a textbook, manual, handbook, etc.
- Vari-Typer.** Trade name of a compact, keyboard-operated, electrically actuated composing machine for the rapid preparation of copy and stencils for all types of reproduction. It has the general appearance of a typewriter, but is equipped with various styles and sizes of types and is self-justifying.
- vetmobile.** A vehicle designed and custom-built for disabled veterans; it is equipped with special devices, gadgets, and accessories according to the needs of the user and was first conceived by E. T. Adkins, formerly of the U.S. Naval Reserve.
- vitamin B-12.** A red crystalline substance isolated from liver and also from a mold of the streptomycin group. It has been shown to be highly effective in the treatment of pernicious anemia and is possibly identical with the animal protein factor (APF) essential for the growth of chicks, pigs, and other animals. Its isolation was accomplished independently by British and American chemists.
- vitamin U.** A vitamin present in many raw foods and vegetables and possibly responsible for the prevention of stomach ulcers; under investigation by Dr. Garnett Cheney of Stanford University.
- X-craft.** See SALAMANDER.
- xerography.** Dry printing; a photoreproduction method invented by C. F. Carlson. The photoconductive surface of an electrically charged plate, after exposure to the copy, retains only a positive charge in the areas covered by the copy. Negatively charged powder, sprayed upon the plate, adheres to these areas, from which it is transferred to the positively charged printing surface, being permanently fused thereto by a few seconds of heating.
- xeroprinting.** A simplified variation of xerography which uses a suitably prepared plate on a rotating cylinder in conjunction with a charging device and various mechanisms for the development, transfer, and fixing of the images.
- ylem.** The primordial flux of highly compressed neutron gas from which all matter has been supposed to develop through expansion and the building of atoms by neutron capture. Term introduced by R. A. Alpher, American physicist.
- yoke.** To lock an arm around a person's throat preparatory to robbing him; a variant of the underworld term, to mug.
- Zarem camera.** A high-speed camera whose shutter, constructed on the principle of a Kerr cell, can operate at the rate of 10 million exposures per second or give a single exposure in 100-millionth of a second. Designed by A. M. Zarem.
- Zee.** The French atomic energy pile, designed, built, and successfully operated under the direction of Frédéric Joliot-Curie. It uses uranium oxide as the activating material, heavy water as the moderator, and develops no external heat energy requiring elaborate cooling arrangements. The energy generated does not exceed five kilowatts. Name from initials of the words *zéro énergie, oxyde d'uranium, eau lourde* (heavy water).

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